

THE MODERN HOSPITAL

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NORFOLK COUNTY HOSPITAL—A HOME-LIKE INSTITUTION

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THE hospital situation for the tuberculous patients of Massachusetts has, during the last two years, matured to a great extent, although it is not yet completely rounded out. Previous to 1916, the law called for every city and town, having a population of 10,000 or over, to build and maintain its own tuberculosis hospital. This legislation was not observed by the smaller towns, and although a fine of \$500.00 was imposed on one

or two of them, it was never pressed. In 1916, a law was passed calling on all counties, not having institutions, to build tuberculosis hospitals, and charge the cost to such towns and cities, as had not already built, pro rata in the county tax. The size of each institution was fixed at one bed to every two deaths, figuring the death rate as an average over a period of five years. Last year, this law was amended, and the present law calls



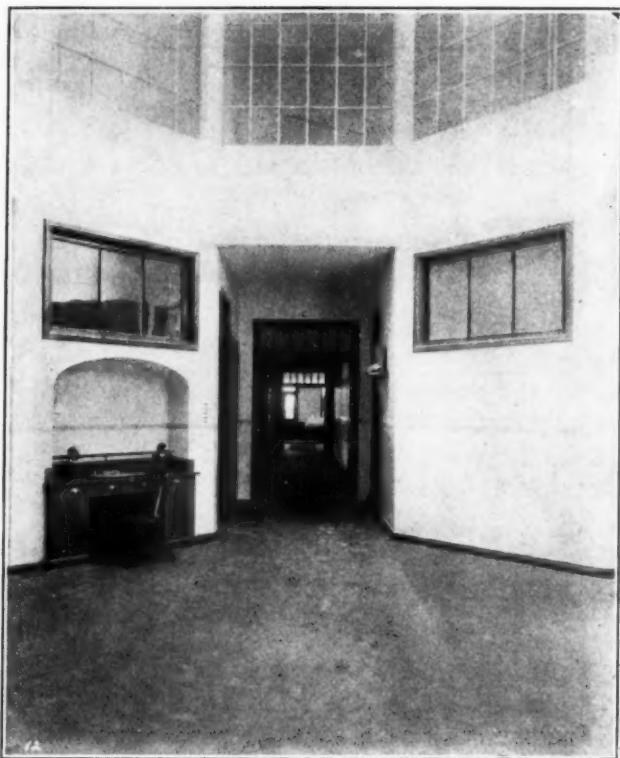
The entrance hall of the Norfolk County Hospital.

for one bed to every four deaths in the county.

Barnstable County had a hospital built under special legislation. Hampshire County had an institution which took patients under contract from Franklin, Hampton, and Berkshire Counties. Middlesex County prepared plans in 1916, bought a site and let the contract for a building, which was stopped by the Capital Issues Committee of the Federal Reserve Board, and the problem has not yet been reconsidered. Worcester County has done nothing under the revised law except to consider the problem. Essex County is now building. Plymouth, Norfolk, and Bristol Counties* built under the law of 1916. In this article, the Norfolk County Hospital will be considered.

Hospital Beautifully Situated

Norfolk County Hospital is situated in Braintree Highlands, Mass., on a plateau overlooking a beautiful, wooded valley and several townships. It is a brick building with limestone trimmings and slate roof, designed in the Colonial style. It consists of twenty units separated from one another by fire doors and brick walls, but arranged in a "T" shaped plan to cut down the long distances, made necessary by putting all the patients on the ground floor. It is designed to accommodate seventy-four beds, thirty-nine for men, twenty-four for women, ten for children and one for a contagious disease patient. However, the



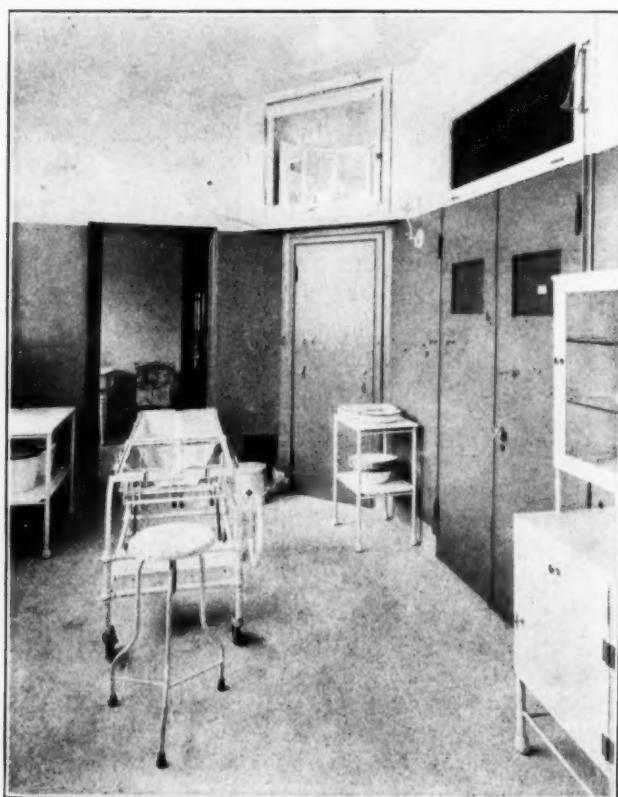
One of the two octagons of the nursing portion, from which radiate corridors to private rooms and wards, and around which are grouped the utility rooms, diet kitchens, patients' toilets and lockers.

administration and service portions are adequate for one hundred beds—a provision which is frequently neglected in the creation of a new institution. Large portions of the building were left unfinished in order to give expansion by finishing off additional rooms, as needed. The whole institution has three parts: administration, nursing, and service.

The administration consists of offices for superintendent, trustees, clerks, and the employees, with bedrooms on the second and third floors for the staff and the employees. The men and the women employees have sitting rooms and sleeping porches. The superintendent and his assistant each have a suite.

Arrangement of Nursing Portion

The nursing portion consists of two octagons, from which radiate corridors to private rooms and wards, and around which are grouped the utility rooms, diet kitchens, the patients' toilets and lockers. From a built-in desk in each octagon, one nurse can control one half the hospital. This desk contains lockers for the nurses' charts, which slide in grooves. There are eight private rooms for men and eight for women. Half of the women's private rooms can be used for children, if desired. Every room or ward, used by patients, has an easterly, southerly, or westerly exposure. The contagious room only is on the north. Every



The operating room in the Norfolk County Hospital. The room receives indirect lighting reflected by mirrors through the windows over the closet door.

*In a subsequent article, Bristol County Hospital will be considered.

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private room and ward has a door, without thresholds, large enough to permit the sliding of the bed out onto a concrete porch. Except for eight of the private rooms, every ward and room has its covered and uncovered porch. A unique feature is the provision of two second-story porches for sun-treatment, which are so arranged that partially nude patients can use them without being seen from any point. Where covered porches darken wards or rooms, dormer windows have been added to allow direct sunlight to enter. The large wards are surrounded on three sides by light and air, and also have dormer windows which act as ventilators. The lockers are three feet by four feet each with a seat, and are so arranged that each patient may change his clothes in them, and yet have plenty of ventilation, as the partition is 6 inches from the floor and covered with a wire screen 7 feet and a half above the floor. Each private room has its own small locker in it. The diet kitchens and utility rooms are fitted up with sinks, sterilizers, and ample shelving. Each diet kitchen has ice boxes built into the wall, piped for the Brine system which is pumped from a central refrigerating plant. The utility room has a small closet in it for keeping bed pans warm on wire shelves, and a blanket warmer opens off each octagon, the blankets being hung on rods, in order that warm blankets may be had immediately in case of chill.



A sixteen-bed ward in the Norfolk County Hospital. The floor light may be seen in the middle of the room. These large wards are surrounded on three sides by light and air, and have dormer windows.

in summer change the air quicker than any artificial system.

The lighting is unique in that each ward has a blue floor light in addition to its indirect ceiling lights. The floor light consists of a piece of plate glass, held in a brass ring similar to a ship's porthole. It is water-proof and is ventilated from below. Being lower than the beds, it is impossible for a wakeful patient to be attracted by it at night, and the blue light, giving a moon-light effect, induces sleep. The corridors are lighted by direct white lights and indirect blue lights. The small operating room is lighted only by two indirect lights which are not in the room, but which cast an equal illumination on all walls and ceiling by mirrors. This obviates the heat, dust, and glare of an operating room fixture, and as well as any possible shadow caused by the surgeon or nurses around the operating table. This system of lighting has now been installed in several hospitals and has proved very satisfactory wherever used.

There is a nurses' silent call system operating from every bed with the indicator in each octagon and by a mirror on the nurse's desk.

The heating is a steam system with direct-indirect cold air boxes through the wall under certain radiators, which give warm fresh air to the wards. The locker rooms and wards are ventilated with exhaust vents, but the second story windows



The Norfolk County Hospital is a brick structure with limestone trimmings, slate roof, and is designed in colonial style. It consists of twenty units arranged on a single corridor.

The service portion consists of main kitchen, serving rooms, help's dining rooms, ice boxes, storage, laundry, and a five-car garage. In the service portion, the patients' dining room, pantry, kitchen, and laundry have windows on opposite sides, which allows a crossed draft in the rooms which are usually the hottest in summer. The nurses', staffs', and employees' dining rooms are all corner rooms. The food which is passed from the main kitchen to the diet kitchens through cloisters each side of the main dining room, obviates employees' pushing food trucks among the patients. The main dining room is run on a cafeteria plan, as this system allows the patients a limited choice of food and reduces the waste. In the dining room is a small stage and concealed moving picture booth. The "movies," given at least once a week, keep the patients contented. The kitchen, which is on the first floor, is two stories high with large skylight and ventilators. All the cooking is done by gas. The laundry equipment is connected to high pressure steam

and each machine is operated by an individual motor. Near the laundry are two rooms with a large sterilizer having a door on each end built through the dividing wall. Infected linen or mattresses are brought out-of-doors to one end of the machine, sterilized and removed from the machine in the other room. The whole building is piped for vacuum cleaning hose. There is a two-body morgue and autopsy room. The morgue, like all the ice boxes, is piped from the central ice plant, which makes four tons a day.

In designing this building, every effort was made to create a home-like effect. The separate units, except the administration building, are one and a half stories high. The open spaces, made by the various wings, cut up the whole façade, which is nearly 400 feet long, reducing it to human scale and giving light and shade to the design. This institution was erected at a cost of \$360,000, including the land, buildings, furnishings, etc., and is considered one of the most up-to-date hospitals in the state.

HOW TO SECURE CAPITAL FOR NEW HOSPITAL CONSTRUCTION

BY G. W. OLSON, SUPERINTENDENT, THE SWEDISH HOSPITAL, MINNEAPOLIS, MINN.

THREE is a nation-wide shortage of hospital beds in America today. This condition is due to a growing popular demand for hospital service, and the failure or inability of hospitals generally to extend their plants to meet this demand. The increased call for hospital beds is not an indication of increasing frequency of sickness among the people. Instead, it is a sign of the growing appreciation of right methods of treating physical disorders, and the alertness of the people to the importance of attending carefully to even minor ailments.

Modern medical education must be given much credit for this change in the attitude of the people towards hospital treatment. The up-to-date physician is unconsciously doing effective work daily as a salesman for hospital service. The modern hospital and doctor combine to make the most effective life saving agency known. A community without hospital service, or out of easy reach of it, is in a bad way indeed. To society as a whole, therefore, the hospital bed shortage is a question of more than statistical interest—it is a problem of the conservation of lives.

Hospital superintendents and governing boards are cognizant of this phase of the question and contemplate the seriousness of it with no little

anxiety. But to them the problem is primarily one of financing. As such it looms large and formidable. Hospital building during the last few years has lagged far behind the public need. Money has not been forthcoming for capital expenditures on a scale sufficiently large to make any appreciable showing. Large hospital benefactions have been for endowment, not for buildings. The great middle class, the small giver, has never been cultivated by the hospitals in the past, and less than ever in the last few years.

No Good Reason for Shortage of Hospitals

There is no good reason for this situation; it is only one more of the many inconsistencies in our present-day economic life. There is no shortage of money. The vaults of banks and other financial institutions are bulging with treasure. The per capita circulation of money was never greater. The distribution of wealth, unequal as ever, was never more general. The average individual income is the greatest in history. Yet there was never a time when we were so poor in the fundamental things of life. We haven't enough decent houses for our people to live in. The capacity of our school buildings is terribly inadequate and besides, fifty per cent of them,

built by a passing generation for the needs of their day, should be replaced by the present generation for the needs of our day. Churches are not being renewed or enlarged and many are falling into irreparable decay. There are neither teachers nor preachers in sufficient number. Worst of all and immediately far more serious in its consequences than any of the other evidences of our paradoxical poverty, is the shortage of housing for the sick.

Of course, the war is to be blamed for this condition. The world is upset, mentally, morally, spiritually, financially. We have lost the right conception of values in life. Otherwise, why should not the hospital, the social institution that is admittedly of first importance in the community, be more liberally supported? The beautiful spirit of sacrifice which the war awakened has been abused, debased, killed. Some evil mind perceiving the readiness with which people gave their money for unselfish causes conceived the idea of taking more of the people's money for his commodity or service, and thus invented the vicious circle of profiteering, which is still growing in size and viciousness. In the center of this circle stand the fundamental institutions of society including the hospitals, unaffected by its wild gyrations except as they grow dizzy and lean while watching the whirling spectacle, and discouraged over their inability to break through to the outside, where it might be possible either to be drawn in to the merry whirl or to benefit by any loose shekels cast off at the golden periphery.

Fault Lies With Hospitals Themselves

A very great mistake was made when the restriction upon new building and financing inaugurated at the beginning of our entry into the war was applied to hospitals. That was the time the hospitals should have come forward like other welfare agencies in the community and nation and asserted their right to generous support, so that they might be placed in position to meet the increased demand upon their service, which those of us who were actually in the work felt was surely coming. The mistake was made by the hospitals themselves. No restrictions upon them were even hinted at by the authorities. The timidity and mistaken patriotism of hospital trustees caused the cancellation of many needful projects that have not yet been revived. It is going to be difficult to revive them. The growth of many good hospitals has been permanently stunted because of such lack of courage and vision.

The responsibility resting upon boards of trustees for the prevailing condition of our hospitals is a serious one and cannot be escaped. The best

that can be done is to shift it to the people, with whom it eventually lies, of course. Surely the great body of hospital workers, superintendents in particular, cannot be blamed. There are doubtless very few of them who have not urged persistently that steps be taken to enlarge and improve their plants as well as the financial condition of their respective institutions in general. A hospital superintendent with head and heart of right material and in proper place could not refrain from bringing forcefully to the attention of his governing board such conditions as for example the daily refusal of ten to fifty per cent of calls for pay beds and perhaps 90 to 100 per cent of calls for free beds, because there are not beds to offer at any price, and gifts having stopped coming, there are no means to take care of the poor. Too often the aggressive, energetic superintendent who loves his work and is willing to do any amount of it so long as he is allowed to go forward, is met with indifference or negation. "He is visionary." "He lacks business sense." "He must be checked." And checked he is, until his soul-sight is dimmed and his vision lost in clouds of discouragement. As for business sense, the true conservative kind—not the clever, speculative variety that is so potent in boosting our living costs—the average hospital superintendent has far more of it than is usually credited to our humble profession. If he didn't have it, we wouldn't find hospitals operating successfully on a total rate increase of less than fifty per cent in the last five years when, as is well known, the cost of almost everything used by the hospital has advanced 100 to 300 per cent.

Hospital Boards Shift Responsibility

Many hospital boards expect the superintendent to take the initiative, devise plans and carry them out even in the matter of financing. They misconstrue their function; they become merely an auditory body meeting periodically to hear reports. They also misinterpret the relation of the superintendent to the financial problems of the hospital. He should never be required to go around with the subscription list asking pledges for the support of his institution. That gives many the impression unconsciously that he is begging for himself. It makes him unpopular; people will get into the habit of crossing to the other side of the street when they see him coming, and if he calls, they will be "out" when they see his card. That isn't good for the hospital. Many a good institution has lost favor with the people for just such reasons.

The superintendent is the executive agent of the board in the internal management of the hos-

pital. Naturally, he should have first-hand knowledge of the financial needs of the institution. If he is a person of vision and earnest devotion to duty he will not wait for any important need to rise up and block the way to further progress before recognizing it. He will search out the needs. When discovered, he will carefully examine them before admitting them to the family of needs which every hospital superintendent must harbor. A meritorious, urgent need that is vitally related to the progress of the hospital he will promptly bring to the attention of his governing board and urge its adoption. When adopted by this body the responsibility of the superintendent ceases, at least so far as providing means to satisfy the need is concerned. That is distinctly the serious, important and dignified duty of the trustees of the hospital.

Superintendent's Task Arduous

Compared with the average business executive, the hospital superintendent has an arduous task. Imagine him going to the golf grounds an afternoon a week, or closing his desk at five p.m., or staying away from his place of business every Sunday! Even if he did that for a short period, the burden of his responsibility for the running of a business that is so closely related to human life and which must be kept running unceasingly every hour night and day throughout the year, would weigh him down and wear him far more than the average business man's average daily task. Hospital trustees do not appreciate this, or they would not ask their superintendent to assume so large a share in the external affairs of the hospital.

The aim of every hospital manager is of necessity to keep the deficit down, or to avoid it altogether, and to do so without reducing the service to the public. It is a problem of spending money, which to the hospital is a far more difficult problem than to any other institution or business. In a public charity hospital operating with a definite allowance from tax funds, the burden of anxiety that must be borne daily by the superintendent lest the costs, which he cannot altogether control, exceed his estimates, is very great in these times of fluctuating prices. In the semi-public hospital operated by a charitable corporation, the superintendent has not only to concern himself about the control of expenditures, but he must also daily give attention to the greater problem of providing the income. The average hospital operates without capital and with but a small working balance. The rates charged for service are fixed and not subject to change with the sudden and frequent advances of important articles of consump-

tion. They are invariably calculated to barely meet expenses under favorable conditions. Rarely is sufficient provision made in fixing hospital rates for the constant need of renewing equipment and making small but necessary additions to the facilities of the hospital. These things must be done, however, and no competent superintendent will let the prospect of a deficit, no matter how unpleasant, deter him from making the moderate capital expenditures from current revenues which are absolutely essential to the efficient care of the patients in his institution. Deficits arising under such conditions are not the responsibility of the superintendent, but a question of financing that is distinctly the concern of the governing board. The remedy is either board action to secure better rates, or a dignified appeal to public benevolence. The board has no right to expect the superintendent to curtail essential expenditures in order to ward off a threatening deficit. The duty of the superintendent is to provide proper service to the sick, and that means also proper provision and maintenance of the entire hospital plant and personnel.

Relation Between Rates and Costs

There are some hospitals who charge an inadequate rate for their pay-patient service. It is the superintendent's duty to investigate the relation between rates and costs in his hospital and to recommend to his board a fair and just schedule. Such a schedule will require the paying patient to pay the full cost of the service received. There necessarily must be a number of beds priced on a part-pay, part-charity basis. These should be assigned only to those unable to pay the full cost. Hospital room service is ridiculously low-priced when compared with present day prices of hotel service. Even the ward service, though it will always remain on a part-pay basis, is underpriced. This service, designed primarily for the common laborer and his family, was rated at \$1.50 to \$2 a day five years ago. A laborer's wage was then \$2 to \$2.50 a day. Today his wage is \$5 a day, but few hospitals charge more than \$2.50 a day for a ward bed. It should be possible for any hospital operating under a just and equitable schedule of rates, and having a fair number of private patients, to meet its current expenses including necessary repairs, renewals, and minor essential additions to equipment sufficient to absorb depreciation charges. The rate schedule should also support a wage scale liberal enough to attract a good class of workers in all departments. A superintendent of business capacity will insist on such a schedule of rates. If the board fails to adopt it, the responsibility is theirs.

A deficit arising under such conditions will indeed be difficult to cover, unless the trustees come forward with the money themselves, for the public today is intolerant of unbusinesslike methods, even in hospitals.

Funds for New Construction Difficult to Secure

With the present-day ability of most people to pay for what they receive, the financial problem connected with current operation is not so difficult to solve. But the question how to secure funds for new construction is one that might well give us concern. Millions are needed for this purpose in every large city in the United States. That the money is here, no one can doubt. But people are not disposed to give. Money for charitable causes is not forthcoming as in the days of the war or even prior to the war. Many big "drives" for the support of community activities this year failed to reach even a moderate goal. Recent hospital campaigns have fallen far short of their aim.

Have the people tired of giving? Giving is a voluntary act. People no longer do anything voluntarily. It is difficult even to get anything done for pay. The fact is that the necessary or involuntary expenditures of everyone today have greatly increased and as a natural consequence there is a sharp curtailment of voluntary giving. This applies to all classes of citizens. Even the man of wealth and large income shrinks from assuming a voluntary obligation to any charity or public enterprise. But people do pay their taxes, no matter how many and how high; they do pay their recognized obligations, including the levies of the profiteers at every turn. Here, then, is the lesson: We must educate the people to accept the needs of the hospital as their solemn obligation. If we can put that across, we will get the money; for people do pay their obligations, once they have been convinced that they owe them.

Hospital Should Be "Sold" to Community

There is a lack of understanding of the proper relation of the hospital to the community. This is due to the fact that so few hospitals have really taken the public into their confidence. The starting of the hospital has been done by a small group, perhaps somewhat exclusive in their associations. A few have given considerable sums to get it going and followed with regular contributions to keep it going. But the hospital has perhaps never been really *sold* to the community. That is what is needed today, if we are to get money to build much needed hospital additions: *salesmanship* that will sell the whole hospital idea to the people. It is a mistake to cater only to the prospective big givers. The average citizen must become interested. Heretofore hospital trustees have relied

upon their own individual credit, the prospective interest paying capacity of the hospital, and the gifts of the few wealthy ones who could quietly be prevailed upon to enter the circle of philanthropists. They have hoped to make a little profit each year with which to pay off the big mortgage gradually, thus passing a goodly portion of the capital expenditure on to the sick.

The practice of requiring only those who are sick and use the hospital to pay for the hospital buildings and equipment is wrong. It would be just as reasonable to require only those who suffer fire losses to build the fire stations and supply the equipment, or those only who are held up, beaten, and robbed to maintain the police department.

Nation Owes Incalculable Debt to Hospitals

There are many things that people need to learn about hospitals. A broad campaign designed to educate the people as to their vital need of these institutions must precede any financial campaign. We find persons who say: "I care not for the hospital. I don't need it. When I am sick I stay home and call a trained nurse." Such persons do not stop to consider that every nurse worthy of the name received her training in a hospital; that if there were not hospitals now engaged in training thousands of nurses, the supply of these ministering angels of the sick bed would soon run out. And who pays for this training? Most of the cost is paid by those who pay hospital bills. The person who perhaps never paid such a bill and yet enjoys the service of a trained nurse must be shown that he owes an obligation to the hospital. The entire nation needs to be shown that it owes a great war debt, incalculable in amount, to the hospitals of the country. For unless it is brought forcefully to their attention, it is safe to say that neither the government nor the people of the United States will appreciate or compensate the hospitals for their service to the country in furnishing the thousands of nurses needed for war service, reconstruction, and public-health work. These trained women went forth at the Nation's call ready for immediate duty without the expenditure of a dollar of government funds upon their further training. And they were the best trained nurses in the world. Surely, the people owe something to the institutions that provided this training.

The direct appeal to the whole people of a community, preceded and accompanied by a broad, democratic, but deeply earnest *selling campaign*, appears to be the only method by which the money needed by our hospitals can be secured. This is work for the best brains, hearts, and hands in any community where hospitals are inadequate for existing needs.

THROUGH THE HEART OF CANADA

BY WALTER S. ROSS

THE journey from Chicago to Montreal by way of the Grand Trunk takes the traveler over the longest piece of continuous double track railway mileage in the world under one management. The distance from Chicago to Montreal is eight hundred and forty eight miles, which is double tracked all the way, and the route traversed is the busiest avenue of commerce between the United States and Canada. Leaving the State of Illinois, the Grand Trunk crosses the southeastern corner of Indiana and traverses the rapidly developing districts of Michigan, where the automobile industry, in particular, has led to a most striking increase in the population and industrial activity. To gain entrance into Canada, the Grand Trunk uses that marvel in engineering skill known as the St. Clair Tunnel. This tunnel between Port Huron, Mich., and Sarnia, Ont., has been appropriately termed "the link that binds two great nations," and over it flow all the waters of the Great Lakes on their way to the sea. Electric locomotives are used for operating the trains through the tunnel, which, with approaches, is more than two miles in length. Once on Canadian soil, the line sweeps through the rich territory of western Ontario to Toronto, serving en route the busy cities of London, Hamilton, Brantford, and Woodstock. Toronto is one of the most attractive and interesting of Canadian cities, and is ornamented with charming public parks, elegant buildings, and hundreds of church edifices. It has an undoubted right to the title of "The Queen City of Canada." Toronto was founded in 1794, and was given the name of York, by which title it was known until its incorporation as a city in 1834, when it received the name it now bears. Toronto, in the Huron language, means "a place where many people meet." The

phenomenal growth of the city has been largely due to the energy and public spirit of her people, who have given a hearty welcome to all newcomers while maintaining an excellent standard of morals, and a fine educational system, rendering the city a desirable place of residence from both a commercial and a social point of view.

The Highlands of Ontario

Toronto is the objective point for the very large tourist traffic that annually makes its way into the "Highlands of Ontario," a region that includes the Algonquin Park, the Muskoka Lakes, the Lake of Bays, the Timagami Forest Reserve and the 30,000 islands of the Georgian Bay.

On leaving Toronto the railway follows the shore line of Lake Ontario for a distance of eighty miles, vistas of that beautiful sheet of water being seen to the right of the train. Lake Ontario is two hundred miles long, sixty miles broad and six hundred feet deep.

Kingston is the largest city between Toronto and Montreal and stands guard at the foot of Lake Ontario, where the channel of the St. Lawrence River begins to define itself. It has a beautiful and commanding situation, and its spacious harbor is fenced in by islands from Lake Ontario storms.

Kingston is one of the principal gateways to the Thousand Islands. It was a French fort in 1672, being founded by Frontenac, the celebrated French soldier. It was also for a great many years one of the headquarters of the British

troops in North America, and still maintains its military characteristics, being the home of the Royal Military College, where Canadian military officers are trained.

An influential visitor from England in 1795 urged the claims of Kingston to be designated as the capital of Upper Canada. That honor went to Toronto, but a greater one

*That delegates to the forthcoming convention of the American Hospital Association may refresh their memory as to certain points of interest in Canada, we publish Mr. Ross' article, "Through the Heart of Canada." Other articles on Montreal and its hospitals will appear in the September and October issues.



City of Montreal.



Maison Venue, Montreal.

was accorded Kingston half a century later. The two provinces were united and Kingston was chosen as the capital. The policy of an All-Canadian Confederation was then the absorbing topic of political discussion. It is a matter of legitimate pride for Kingston that its representative in the first Canadian Parliament was Sir John A. Mac- Donald, the first Prime Minister of the Dominion. Kingston held its honors as the capital city for only three years. While its dreams of political pre-eminence may not have been fulfilled, it nevertheless occupies a high place among Canadian cities.

Situated at the eastern end of the famous Thousand Islands region is another solid, prosperous town, Brockville. It is one of the historic centers of Canada and has produced many prominent Canadians and men of note. The "United Empire Loyalist" families are closely associated with Brockville. In the war of 1812 Brockville was raided by the United States soldiery from the neighboring town of Ogdensburg, in the State of New York. Brockville subsequently joined in the assault and capture of Ogdensburg. In addition to being a busy manufacturing center, Brockville ships more cheese than any other town in the Dominion. It is also noted for its water sports, and many

local and national canoe and rowing regattas are held on the excellent river course in front of the town.

The Thousand Islands, near by, present everything conceivable in the way of an island, from a bare rock a yard across to islands covering many acres, some heavily wooded, some covered merely with grass, some cultivated as farms, some containing beautiful summer residences and hotels.

The waters teem with the gamiest of fish, such as black bass, pickerel, muskellunge, etc. Twelve miles east of Brockville is Prescott, one of the most beautiful towns in the valley of the St. Lawrence. Among its principal objects of interest are old Fort Wellington, named in honor of the Iron Duke, and the tomb of Barbara Heck, the founder of Methodism in America.

The Highway of The Fur Traders

One hundred miles east of Prescott the St. Lawrence receives the waters of the Ottawa River, for centuries the great highway of the fur traders. The Scenery at Vaudreuil and St. Annes, where this meeting of the waters takes place, is so charming that a glimpse from the car window only tempts the appetite for more, and the traveler with time to spare often returns to drink in its beauties by a longer stay in this delightful section. Between Vaudreuil and Lachine are located the many beautiful resorts on the shores of Lake St. Louis, which is an enlargement of the St. Lawrence River. Lachine was named by La Salle, who fancied he saw in the St. Lawrence the road to the Orient, and to China, hence the name La Chine. A word of the history of the town may be

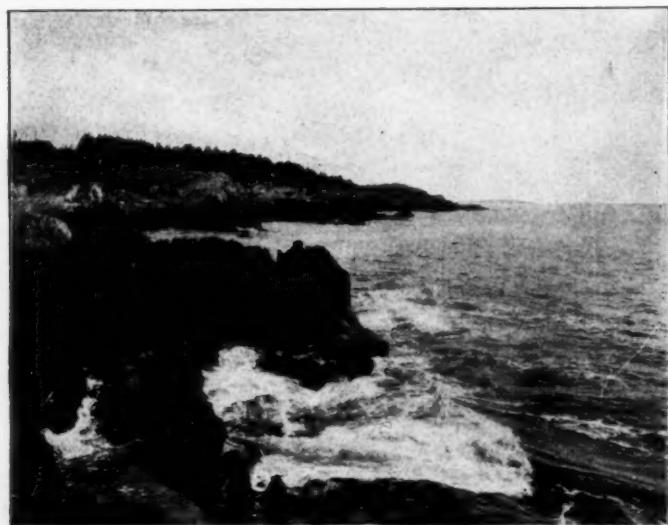


Where Wolfe died, Quebec.

of interest. Leaving the little village which he had founded at the Sault, La Salle and his voyageurs threaded the Thousand Islands, founded Kingston, and pushed on to the west by the Great Lakes. One dark, rainy night the little settlement lay down to sleep as usual, but was rudely awakened by the yells of the Iroquois, the flashes of flaming torches, and the cries of the helpless inhabitants as they went the way of the pioneer of that period. The next day not a settler survived, and only the stone houses remained to mark the spot where Lachine had stood. Centuries have passed, and the old stone house of La Salle still stands to remind visitors of the massacre. The town of Lachine lies a little over two miles above the Lachine Rapids, and at the point where the Lachine Canal has its intake.

From Lachine to Montreal by rail on the Grand Trunk many signs can be seen of the industrial activity that surrounds this great metropolitan city of Canada. The incidents leading to the founding of Montreal are interwoven with stories of mysterious visions and of divine revelations. Suffice it here to say that Montreal was founded May 18, 1642, by Paul de Chomedey, Sieur de Maisonneuve, a soldier of noble character and deep religious thought, as beffited one who had been commissioned to establish a real kingdom of God in the wilds of the western hemisphere. Maisonneuve was accompanied by a party of seventeen, and their landing was made the occasion of simple but solemn religious ceremony. The small band of pioneers was soon joined by sixty other colonists, and the population and influence of the little community from that time steadily extended.

Montreal today has a population of more than seven hundred and fifty thousand, ranking as the sixth largest city on the North American continent. The most practical phases of commercial



Vista of Maine Coast.



Twenty-three-pound muskellunge.

activity evolve themselves amid the historic scenery, the stage effects and other reminders of a most romantic period and a less practical system. As the years roll by, and as the octopus of commercialism asserts itself, what little remains of the old and romantic diminishes, but some of the more historical landmarks in the very heart of the business district have been preserved. So, squeezed in among the outbuildings of busy factories and great modern warehouses are to be found some of the modest but massively built residences of the French régime, with their generous, open fireplaces and elaborately ornamented mantels, built as long ago as 1680.

The visitor cannot fail to be impressed with the number and extent of the city's educational and benevolent institutions. More splendid and well adapted college buildings than those of McGill and Laval universities do not exist anywhere, while any city would have good reason to be proud of such an array of hospitals as the Hotel Dieu, the Montreal General, the Royal Victoria, Notre Dame, the Western and the Grey Nunneries.

Montrealers succeeded in doing what never had been accomplished before when they created a great sea-port one thousand miles from the ocean. Her magnificent harbor and modern dockage facilities are today admired by the port authorities of the world. There are about eight miles of deep water with wharfage at the berths for ninety-two vessels. Montreal has fourteen hundred factories, her bank clearances are more than four billion dollars per

year and her property value more than eight hundred million dollars.

From Montreal a series of very interesting side trips can be made. Within a radius of four hundred miles are the cities of New York, Boston, Portland and Quebec. No city on the American

continent presents such peculiar attractions to the tourist as does the ancient walled city of Quebec. It is a locality of much interest, and no less pleasing for its scenic beauty. Portland is not only an interesting city but an ideal centre for a fall vacation, being the gateway to the lovely Maine coast.

THE CHOICE OF FLOOR MATERIAL FOR HOSPITAL WARDS AND PRIVATE ROOMS

BY S. S. GOLDWATER, M.D., DIRECTOR, MT. SINAI HOSPITAL, NEW YORK

THERE are probably more differences of opinion in regard to the choice of floor material for wards and private rooms than in regard to any other question that calls for experienced judgment in hospital planning. Like everyone who is engaged in the planning of hospitals, the writer is frequently asked to express an opinion concerning the best floor material for patients' rooms, and to explain at length the reasons for his belief. In order to save the time required to prepare a descriptive statement of the relative merits of the various available types of floor material, the writer has prepared a table in which the attempt is made to assign a fair rating to each material from the standpoint, respectively, of sanitary value, comfort, appearance, cost of installation, cost of maintenance, and unavoidable deterioration. A letter rating has been given to each material under all the headings named except "cost of installation"; this has been left open for the time being because of the almost revolutionary changes in costs that have occurred during the past year, and because of sheer inability to forecast further price movements. The writer's rating of the different materials follows (in the schedule given "A" is equivalent to the highest rating, "A—" to the next highest, and "D" to the lowest) :

Material	Sanitary Value	Comfort	Appearance	Cost of installation	Cost of Maintenance	Unavoidable deterioration
Wood	C	B	A-	..	C	B
Linoleum	B	A	B	..	B	B-
Cork	B	A	B	..	B	B
Composition	A-	B	B-	..	B	B
Rubber	B	B	B	..	A-	B
Tile	A	C	A	..	A	A
Terrazzo	A	C	B-	..	A	A-

So much for the writer's own opinion. What do others think? In order to ascertain this, letters were written to a number of well-known

architects who have been active in the hospital field, and the substance of the replies received is appended, the statements appearing in alphabetical order. The writer takes this opportunity to thank those who have thus thoughtfully and helpfully contributed, out of the wealth of their experience, to a discussion which seems never to lose its interest for hospital workers.

Arnold W. Brunner, New York City:

"I think your table is excellent, but I do not quite agree with your rating, and after giving this matter some consideration I am sending you the following, which indicates my opinion:

Material	Sanitary Value	Comfort	Appearance	Cost of installation	Cost of maintenance	Unavoidable deterioration
Wood	C	A	A-	..	C	C
Linoleum	B	A	B	..	B	B-
Cork	B	A	B	..	B	B
Composition	A	B	B-	..	B	B
Rubber	B	B	B	..	A-	B
Tile	A	C	A	..	A	A
Terrazzo	A	C	B-	..	A	A-

"I agree with you about the cost of installation. I am assuming that the composition referred to means the composition that we were in the habit of using but which is not now obtainable."

Coolidge & Shattuck, Boston, Mass.:

"We have received your letter of April 28 containing the rating of different floor materials. We have been over this carefully and agree with your rating with the exception, possibly, of composition floor, which we would put even lower in the table than you have."

Abraham Garfield, Cleveland, Ohio:

"In rating floor materials in accordance with your schedule, you may find that some of the differences of opinion are due to differences in understanding just what the terms mean. I have given tile a low 'cost of maintenance' rating, having in mind white tile that has to be scrubbed four

or five times a day; perhaps this is not what you mean. You may have more particularly in mind the red quarry tile. I have always felt in regard to composition that if it is a really good job, it is almost always perfect, but if it turned out badly, it was very bad. Such comparisons of views cannot be very valuable because of a lack of complete definition; but they give rise to considerable interesting discussion. Cork shows up well and is relatively less expensive than it was a few years ago; the situation may change in a year or two."

Material	Sanitary Value	Comfort	Appearance	Cost of installation	Cost of maintenance	Unavoidable Deterioration
Wood	C	B	B	..	C	B
Linoleum	B	A	B	..	A	B
Cork	A	A	A	..	A	A
Composition	A	B	B	..	B	B
Rubber	B	A	C	..	A	B
Tile	B	C	A	..	C	B
Terrazzo	B	C	B	..	A	A

Palmer & Plonsky, New York City:

"We believe that using 'A' as the standard, that the rating you have established is substantially correct. Possibly linoleum might be classed under 'A' in appearance if it is of the best quality and properly laid."

George B. Post & Sons, New York City:

"We have given a good deal of thought to the selection of floor material in the private rooms of hospitals, and the following is our opinion of the rating which should be given to the different materials mentioned in your letter":

Material	Sanitary Value	Comfort	Appearance	Maintenance	Deterioration
Wood	D	C	A	C	C
Linoleum	B	A	B	A	A
Cork	B	A	B	B	B
Composition	A	C	B	B	B
Rubber	B	A	B	B	C
Tile	A	C	A	A	A
Terrazzo	A	C	B	A	A

Richard E. Schmidt, Chicago, Ill.:

"The ratings assigned by you to various floor materials for wards and private rooms in the table in your letter of April 28 agree very closely with my conception and I congratulate you on applying a graphic method of presenting these views to clients in a clear and concise manner.

"I assume that the ratings in the column regarding 'appearance' you have rated the usual appearance of the various floors after they have been laid a year or two, for wood, composition and terrazzo inevitably shrink or crack. This quality

is, however, expressed by the ratings in the 'unavoidable deterioration' column, in which I would have a special mark opposite 'composition flooring,' of which there have been more failures than successes in the work which I have observed.

"Mastic flooring is being used to a considerable extent in public institutions in the Middle and Far West. It is called 'Insulite' 'Rezilite' and possibly other names. At present the makers are laying dark red, olive green and olive drab flooring, and I would rate it as follows:

Sanitary Value	A
Comfort	A
Appearance	R
Cost of Maintenance	A
Unavoidable Depreciation	A

"Possibly you would rate it lower under the latter, inasmuch as it is quite soft and easily cut by sharp casters, making the use of sliding shoes or domes even more imperative than in the case of linoleum, but it can be patched so perfectly that it is ideal in that respect."

Edward F. Stevens, Boston, Mass.:

"From my experience I should differ with you slightly, and below I have made a comparative table, using your symbols.

"I have added a column to the relative cost value of the present market price, starting with '1' as the least expensive and going up to '6' as the most expensive.

"You will notice that I have given a much lower rating on composition, which I take to be the various magnesite products. Personally, I have had such poor results with floor surfaces made of this material that I do not place a very high sanitary or appearance valuation on it, and a very large element of deterioration.

"I fully agree with you that it is impossible to give any satisfactory prices today on any material."

Material	Sanitary Value	Comfort	Appearance	Com. cost of installation	Maintenance	Unavoidable deterioration
Wood	C	B	A-	2	C	B
Linoleum	B	A	A	3	B	B-
Cork	B	A	A	6	B	B-
Composition	A-	B	B	1	C-	C
Rubber	B	A	A	6	A-	A-
Tile	A	C	A	5	A	A
Terrazzo	A	C	B-	4	A	A

York & Sawyer, New York City:

"We have gone over your table very carefully and have indicated our opinion as to the relative merits of the different materials under the headings you gave.

"The following is a schedule of ratings given by our Mr. Franklin under column 1 and by our Mr. Allen under column 2:"

Material	Sanitary Value	Comfort	Appearance	Cost of Installation	Cost of Maintenance	Unavoidable Deterioration
Wood	1 C 2 C	1 B 2 B	1 A 2 B	1 . 2 .	1 C 2 C	1 B 2 C
Linoleum	2 B C	2 B A	2 A B	2 . A .	2 A B	2 B A
Cork	2 B C	2 A B	2 A B	2 . A .	2 B B	2 B A
Composition	2 B C	2 B B	2 C B	2 . A .	2 B B	2 D C
Rubber	2 A B	2 A B	2 C B	2 . A .	2 A B	2 A A
Tile	2 A A	2 C C	2 A A	2 . A .	2 A A	2 A A
Terrazzo	2 A A	2 C C	2 A B	2 . A .	2 A A	2 A A

SUMMARY OF TEN OPINIONS ON FLOOR MATERIALS FOR HOSPITAL WARDS

Material	Sanitary Value	Comfort	Appearance	Cost of Maintenance	Unavoidable Deterioration
Wood	CCC CCC DCC C	BAB BBB CBB B	AA-A AA-A- AAB	CCC CBB CCC B	BCB BBB CBC B
Linoleum	BBB BAB BBC BBC	AAA AAA AAA AAA	BBB BAB BBB BBB	BBB BBB BBB AAB	B-B-B- B-B-B- BBB ABA
Cork	B BBB BBB BBB	A AAA AAA AAA	B BBB BAB BAB	A BBB BBB BBA	B B-B-B- BBB BBA
Composition	A A-A-A- A-A-A-	A BBB CBB	A B-B-B- B-B-B-	A BBB BBB	A BBB BDC
Rubber	A BBB BBB BAB	B ABA AAA AAA	B ABA AAA AAA	B AA-A AA-A BAA	B BBB BAB CAA
Tile	B AAA AAA AAA	A CCC CCC CCC	B AAA AAA AAA	A AAA AAA AAA	B AAA AAA AAA
Terrazzo	B AAA AAA AAA	C CCC CCC CCC	B B-AB- B-B-B-	C AAA AAA AAA	A AA-A AAA AAA

REHABILITATION OF THE TUBERCULOUS*

By JOHN W. TURNER, Surgeon, U. S. P. H. S., Reserve, Consultant on Tuberculosis.

The size of the tuberculosis problem confronting the Federal Board, considered numerically, can only be estimated. The totals range from 40,000 to 60,000. The estimates are based on statistical information gathered principally from the statistics published by the Surgeon General of the Army and the Bureau of War Risk Insurance. The number of tuberculous cases that may have had their disease incurred, increased, or aggravated in the service has been estimated by the Bureau of War Risk Insurance was 46,000 for the year 1919, increasing gradually to the peak of the load, which will be reached in 1923 with 49,600 cases. Their estimate of the number of hospital beds that will be needed reaches its peak in 1923. The number of beds is estimated at 13,900.

The study of 115,657 discharges on S. C. D. from the Army in 1918 reveals that the percentage of pulmonary tuberculosis was 8.92 per cent, nearly 9 per cent.

If one were to take the grand total of potential claimants—675,400—425,100 discharged from the service and 250,300 rejected by the camp surgeons, and compute the number of tuberculous cases as being in the same proportion as the number in the first group—that is, a little less than 9 per cent—one is confronted with the total of over 60,000. The Surgeon General of the Army reports the number of tuberculous cases as 7,274 for 1917, 20,391

*Reprinted from The Vocational Summary.

for 1918, and apparently 14,408 for the year 1919, a total of 42,073 absolute number from the Army. The number of beneficiaries of the Bureau of War Risk Insurance receiving hospital treatment March 31, 1920, was 4,174.

One can only estimate the number of tuberculous cases that may have to be considered as eligible for training. It is believed, however, if one subtracts from the total number of expected tuberculous cases in all forms as estimated by the B. W. R. I., the expected number of hospital beds estimated that this result may approximate the number of cases that will be eligible for training by the Federal Board for Vocational Education outside of sanatoria.

So estimated, the number of training cases for 1920 will be 34,200 and for 1921, 35,500:

1920

Total number expected tuberculous cases.....	47,200
Number of hospital beds required.....	13,000
	34,200

1921

Total number expected tuberculous cases.....	49,000
Number of hospital beds required.....	13,500
	35,500

Looking at tuberculosis from the broad angle of public policy the Federal Board has projected a comprehensive scheme for the vocational and economic rehabilitation of the tuberculous veterans. The board conceives that it is not only its duty but that it has a great opportunity to provide training for the tuberculous veterans of the World War.

This training under medical supervision is to begin concurrently with treatment in the sanatorium and to continue until rehabilitation has been established.

IN THE WAKE OF PROHIBITION

Significant figures concerning the effect of prohibition are those submitted by the city of New York Board of Ambulance Service, which keeps a record of all ambulance calls in the city. The number of calls due to intoxication and alcoholism are given as follows:

January, 1919, (no prohibition).....	412
February, 1919, (no prohibition).....	364
January, 1920, (prohibition half month).....	307
February, 1920, (prohibition entire month).....	133
The Bellevue Hospital, whose services along alcoholic lines were formerly higher than any other hospital, showed the following decrease in the number of ambulance calls for alcoholics:	
January, 1919, (no prohibition).....	136
February, 1919, (no prohibition).....	92
January, 1920, (prohibition half month).....	21
February, 1920, (prohibition entire month).....	10

"It-er-seems," said he, regarding the unfortunate with scientific interest, "that the attacks of chills and fever appear on alternate days. Do you think—is it your opinion—that they have, so to speak, decreased in violence, if I may use that word?"

The patient smiled feebly.

"Doc," said he, "on fever days my head's so hot I can't think, and on ague days I shake so I can't hold an opinion."

Doctor: "Well, Casey, are the eyes improving?"

Patient: "Sure, they are, sir."

Doctor: "Can you see better; can you see your nurse now?"

Patient: "Sure, I can that, sir. Faith she gits plainer and plainer ivery day."—*London Opinion*.

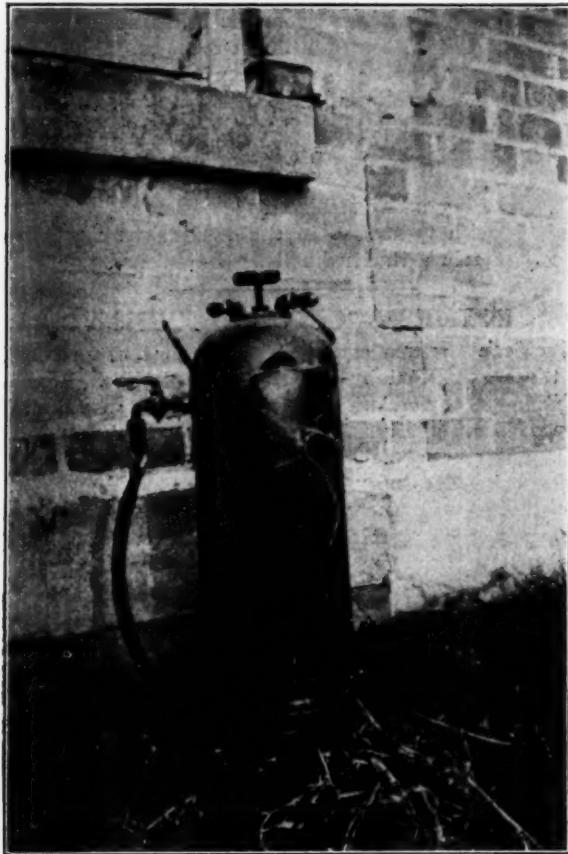
HOSPITAL FIRES AND THEIR CAUSES*

BY H. W. FORSTER

IN THE preparation of this article, consideration has been given to institutions of the following type:

Hospitals Classified as	Institutions for
Acute	Aged
Chronic	Alcoholic
Contagious	Blind
Emergency	Cripples
General	Deaf and Dumb
Infirmaries	Drug Addicts
Maternity	Epileptics
Psychopathic	Feeble Minded
Tubercular	Indigent
	Insane
	Orphans

The essentials of fire safety for institutional buildings and, in fact, for practically all other structures, are developed more in detail later in this article. In order, however, that a clear grasp may be had of certain fundamental and common



A corroded fire extinguisher found in a state reformatory. Note the lead pencil stuck through the shell at the left, just above the valve.

sense principles, it is well to summarize in order that those interested may grasp the basic features of the whole problem.

Obviously, the way to escape fire danger is to have no fires. That means fire prevention. Fire

prevention has to do with removing the causes of fire, and covers the proper handling and storage of oils and other hazardous materials, the proper housekeeping measures, the disposal of waste of various kinds, the proper installation, inspection, and maintenance of lighting and heating equipment, and attention to other similar fire hazards.

Many of these fire prevention measures are mechanical, but a far greater number depend upon human inspection and performance. It is regrettably true that the human factor is not sufficiently dependable to justify complete reliance upon fire prevention measures which presuppose continuous human fidelity and efficiency.

The next best thing to preventing a fire from starting is to see that any fire that starts is invariably extinguished while it is still small. The automatic sprinkler system is beyond question the most dependable device for accomplishing this, as is witnessed by a remarkable record of performance covering thirty-five years. This is summarized in the following statement unanimously passed by the National Fire Protection Association at its 1914 convention:

"It is today an almost unquestioned fact that automatic sprinklers afford the highest degree of protection against fire in practically all cases where there is combustible construction or material, the rapid burning of which is liable to be a menace to the lives of occupants of the building."

Automatic sprinklers are entirely practical for institutional buildings, in spite of the fear which some managements have of accidental opening of sprinkler heads at times other than during fire. It is a question of definite life safety from fire versus a remote possibility of a water spray from a single head being harmful to inmates.

Structural improvements and the use of fire-resistant building material in new buildings make possible a degree of safety in them which cannot be secured in existing structures except by the application of automatic sprinklers. It is the

Note: The author desires to acknowledge material assistance in the preparation of this article rendered by Mr. C. W. Burnham, member of the National Fire Protection Association's Committee on Public Information.

*Second installment of an article by Mr. H. W. Foster reprinted by special permission from the April 1920, Quarterly of the American Fire Protection Association.



The overfilled refuse can, the rags above, and the wooden ladder, all constitute a fuse leading to the wooden floor above.

old building that generally is the most dangerous, and for it the sprinkler is almost always the solution.

Upon the carefulness and diligence which are exercised in fire prevention measures, and upon the provisions which are made for promptly extinguishing fire when fire prevention measures fail, depends to a considerable extent the problem of arranging for satisfactory egress. Because of the helplessness of many of the occupants, and the great difficulty of removing the sick, the question of egress is especially complicated, and while it needs and should receive proper treatment, unusual emphasis must be placed upon fire prevention and fire extinguishment.

Closely associated with adequate egress facilities are the education and organization of those responsible for fire safety, the provision of adequate alarms, and attention to fire and exit drills.

There is necessarily a close interrelation between all of these various problems, and such interrelation should be borne in mind in reading the following sections of this article, which purposed to show the various common hazards which are found in institutional buildings and to outline the methods by which such hazards can be remedied or largely reduced.

The facts presented in this article are based upon investigations extending over a period of more than a decade, a detailed examination of many institutional buildings located in various parts of the country, and a careful study of the available literature on this subject.

Causes of Fire

Summary of Fire Causes.—The following table shows the number of institutional fires due to the various causes, as compiled by the Actuarial Bureau of the National Board of Fire Underwriters, occurring during the years 1916-1917:

Causes of Fire	1916		1917	
	Number	Percent	Number	Percent
Heat Hazards	119	20.0	129	21.3
Matches and Smoking	71	12.0	77	12.7
Lightning	67	11.2	54	8.9
Sparks	47	8.9	62	10.2
Electricity	42	7.0	47	7.8
Oils and Hazardous Materials	39	6.5	31	5.1
Gas	24	4.0	15	2.5
Spontaneous Combustion	17	2.7	18	3.0
Exposure	16	2.7	35	5.8
Open Lights	15	2.5	22	3.6
Incendiarism	11	1.7	8	1.3
Open Fires	16	2.7	0	0.0
Explosion	4	0.7	2	0.3
Housekeeping	2	0.3	3	0.5
Fire Works	2	0.3	3	0.5
Conflagration	3	0.5	1	0.2
Miscellaneous	18	3.0	20	3.3
Unknown	85	14.2	79	13.0
Total	598	100.0	606	100.0



Thirty blind children sleep in this room, which has small windows affording very poor ventilation and useless as means of egress. The only doorway leads to open wooden stairs. Note the highly varnished woodwork. It takes no expert to prophesy another institutional catastrophe.

The more important of these causes are discussed in the following sections.

Hazardous Materials

Volatile Liquids.—In all hospitals and in many institutions of other types it is necessary to keep on hand considerable supplies of ether, alcohol, gasoline, and other inflammable liquids, and that they are a distinct fire hazard is borne out by some 6 per cent of all fires being due to them. The main supply of these liquids should be kept in a small isolated building, or in a fire-resistive vault, provided with proper ventilation and drainage. Only small quantities should be taken into ward buildings and these should be handled with greatest care. See account of the Schoffner Hospital fire on page 29, July issue, 1920. In some institutions it is customary to keep considerable quantities of these liquids in supply rooms on each floor, a practice which should be discouraged.

Great care should be taken in the handling of the supply of gasoline for motor driven ambulances, trucks, or pleasure cars. Gasoline should be stored in underground tanks, and never be handled in open containers. Gasoline should never be used for cleaning purposes, especially inside of buildings. The danger is acute. Static electricity may be generated in the cleaning process and is especially to be feared.

Many of the metal polishes commonly used for polishing brass work on ambulances and in buildings are highly inflammable, being composed largely of benzine or gasoline.

Naphtha and benzine are employed as solvents for rubber cement, which is used commonly for mending rubber gloves, hot water bottles, etc. Cement should be kept in small quantities in covered cans. Such liquids should not, of course, be

used in any portion of buildings occupied by inmates.

Oils and Paints.—A very generous supply of oils, paints, and varnishes is kept on hand at most institutions. These should never be stored or used in combustible buildings occupied by inmates. The main supply should be kept in an isolated storage house. In paint, machine, furniture, and printing shops, only the amount of oils and paints needed for immediate use should be kept on hand and these should be stored in a tight metal cabinet with a drip pan and self-closing doors. Alcohol and turpentine needed for thinning paints and varnishes or cleaning press rolls should be kept in approved safety cans. In a western state, 300 gallons of oils and paint were found stored with a large amount of lumber in the basement of a building housing deaf children.

Linseed oil mixtures are very frequently used for oiling floors. For this purpose mineral oil compositions are much safer, but the dressing of floors with any form of oil is a poor practice which should be eliminated.

In one large institution for insane, the floors were found oiled with a linseed oil mixture, the main supply of which was kept in a paint shop in the basement of one of the ward buildings. Oil-soaked sawdust and cotton waste lay about the floor and hundreds of gallons of oil, paints, and varnishes were stored in barrels, cans, and open containers. Some old furniture was placed near the door awaiting refinishing. In spite of the hazard, no extinguishing equipment was provided, and the only exit for the workmen here to the basement beyond was past piles of newly varnished furniture.

Dangerous Chemicals.—Chemicals dangerous from a fire standpoint are frequently found in institutional drug rooms. They should be listed and kept under lock and key in the safest place available.

Cotton.—Cotton wool, cotton gauze, flannelette, and cotton bedding are used in practically all institutions. Untreated cotton ignites from the slightest spark or flame, and burns very rapidly.

The storage of all supplies away from spark dangers and of large supplies outside of ward buildings is advisable.

Celluloid and Motion Picture Films.—Some institutions, especially convalescent hospitals, children's homes, and insane asylums, have motion pictures for the inmates at frequent intervals. The ordinary type of film ignites very easily, burns rapidly, and gives off stifling smoke. Only approved machines, properly installed in fire-resistive booths, and attended by licensed oper-

ators, should be allowed. Slow burning or "safety" films are now on the market and should be given preference whenever possible.

Celluloid is similar in composition to motion picture films and articles made of it should not be allowed inside institutional buildings. It is especially apt to be found in the form of toilet articles, picture frames, toys, and even match trays, lamp shades, and candle sticks.

Housekeeping.—Cleanliness and order are, generally speaking, good in institutional buildings, but hazardous conditions are likely to exist in basements, attics, and workshops, and especial supervision and effort are necessary to keep these places clean.

Metal cans should be provided for rubbish and soiled cotton waste. All rooms in constant use should be swept daily, and any accumulation of combustible material in basements and attics should be removed at once. Especial attention should be given to the removal of papers and other packing material from grocery store rooms and supply rooms. All lockers and closets should be frequently inspected to prevent accumulations of old clothing and other combustible material.

AMERICAN HOSPITAL ASSOCIATION JOINS NATIONAL INFORMATION BUREAU

The Board of Trustees of the American Hospital Association at its meeting in Chicago on June 29, voted to become a part of the National Information Bureau, 1 Madison Avenue, New York City, an organization interested in co-operative effort for the standardization of national, social, civic, and philanthropic work, and appointed Dr. A. R. Warner, executive secretary, as its representative to the council of this bureau.

APPLICATION OF OHIO SECTION APPROVED

The Ohio section of the American Hospital Association was formally approved by the trustees of the American Hospital Association at its meeting in Chicago, June 29. It will be recalled that the Ohio Hospital Association at its recent sixth annual convention adopted a resolution dissolving the Ohio Hospital Association as a state organization and creating the Ohio section of the American Hospital Association, to be known as the Ohio Hospital Association.

REVERT TO STONE AGE

The American Red Cross reports that Dr. Bashilkef, former Bulgarian court physician, has with marked success resorted to the expedient of using flint bone scalpels for the Varna Hospital in handling the head wounds among the refugees encamped about the city who were the hospital's chief patients. Crude but thoroughly clean operations are performed. Red Cross supplies have been shipped to Varna, but, meanwhile, the entire surgical equipment consists of eight instruments, too rusty for use, and the only drugs on hand are two quarts of iodin, one pound of magnesium sulphate, one pound of bisulphate of soda, and a little ipecac.

THE THERAPEUTICAL USE OF WATER

BY J. H. KELLOGG, M.D., BATTLE CREEK SANITARIUM, BATTLE CREEK, MICH.

WATER was used as a remedy by prehistoric man as it still is employed by most primitive tribes. There seems to be in both man and lower animals a deep seated instinct which leads to the resort to water as a remedy.

The therapeutic value of water, when applied externally, is chiefly dependent upon its efficiency as a means of producing thermic impressions, for which it is especially adapted through its peculiar physical properties. Applied at temperatures of 92° to 98°, the so-called neutral temperature, no impression is made upon the thermic nerves, and hence the powerful reactions which result from stimulation of the nervous elements do not occur. Each degree of change in temperature in either direction from this neutral zone develops more or less decided effects, according to the range of difference.

The effect of cold applications is, on the whole, quite the opposite of that of hot applications, and yet there are notable exceptions to this general rule, for both very hot and very cold applications produce a very similar effect—strong excitation, if the application is of very short duration.

In the table on page 98, which I quote from my work, "Rational Hydrotherapy,"* I have endeavored to present a summary of the physiologic effects of hot and cold hydriatic applications.

In the application of water it is necessary to keep constantly in mind the varied physiologic effects produced by water at different temperatures. Every degree of change in temperature to some degree modifies the effect produced. Success in the clinical use of water depends upon a knowledge of these facts and their skillful adaptation to individual cases. Hydriatic measures are of little value unless applied with sufficient intensity to produce harm if the application is not made with discretion. The idea that water is so simple and innocent a remedy that it can do no harm, even if it does no good, is a gross error. When ap-

Water, the oldest of therapeutical measures, remains one of the most efficacious. Its curative value, when applied externally, depends upon its efficiency in producing thermic impressions; every degree of change in temperature modifies the effect. In hydrotherapy the first requisite is accuracy of diagnosis—the condition of the patient's heart, blood vessels, kidneys, nervous system, metabolism, determines the type of treatment. Hydrotherapy is successfully employed as a curative measure, as a relief from pain, supplanting anodynes, as a tonic, and as a sedative. Success in its clinical usage depends upon a knowledge of its uses and effects, and its adaptation to individual cases.

plied in such a way as to be incapable of doing harm, even though not properly adjusted to the case in hand, it is not likely to be of any material benefit. The failure to recognize this principle is perhaps largely responsible for the lack of confidence in water as a remedy and the general neglect to utilize this powerful therapeutic agent. Those who make use of water empirically, and unfortunately it is rarely used in any other

way, have been led by experience to adopt measures which are not likely to do harm if they do no good, the only safe course for an empiric to pursue. But the result of these "harmless" measures is, through their lack of potency, almost nil. If some good results are obtained, it is more properly attributable to good fortune than to therapeutic skill.

Accuracy in Diagnosis, First Requisite

The first thing necessary in a scientific application of hydrotherapy is accuracy in diagnosis. It is absolutely essential to know the condition of the patient's heart and blood vessels, of his kidneys, the state of his central nervous system, his ability to react to thermic impressions, and lastly, the state of his metabolism, whether it be plus or minus, and to what extent.

A person suffering from hyperthyroidism, with a metabolism of plus 75, would be certain to be greatly injured by very hot baths, prolonged hot baths, or by very cold baths either long or short; on the other hand, a person with hypothyroidism may be greatly benefited by the most vigorous hydriatic procedures.

Before the introduction of clinical methods for the study of metabolism, the adjustment of hydriatic procedures to individual cases was to a considerable degree a matter of guesswork, and it was impossible to prevent many blunders, notwithstanding the exercise of the most painstaking care in arranging hydriatic prescriptions. More than 20 years ago I undertook to meet this difficulty by arranging a bath calorimeter, but found

it impractical for clinical use, though useful in laboratory research. Some ten years ago we introduced the elaborate apparatus of Benedict, which has since been supplemented by more convenient methods, and have made many thousands of observations which have been found to be an exceedingly important guide, not only in the application of water but in the employment of other therapeutic means. So far as I am aware, this was the first attempt on an extensive scale to make use of metabolism studies as a guide in clinical therapeutics. Our appreciation of the value of this therapeutic measure has steadily grown until at the present time this department keeps constantly busy a well trained director with a large corps of assistants, and half a dozen of the most improved forms of apparatus for metabolism studies.

The great increase in the prevalence of diseases of the heart and blood vessels (nearly 300 per cent within 30 years) renders important a careful study of the heart and blood vessels in every case. In the writer's practice an x-ray examination of the heart and large vessels of the chest is made a part of the routine examination. A marked change in the size or shape of the heart, in the form of the aortic arch, or evidence of atheromatous deposits, are danger signals to which the hydriatist must give most serious attention. Further studies by the electrocardiograph show, in many cases, such an advanced degree of myocarditis as might easily render perilous to the patient some of the most ordinary hydriatic procedures, such as the sweating hot bath and the cold douche, at least when employed without the special precautions necessary in cases of this sort.

Water is one of the most efficient of all means

of combating the conditions which give rise to high blood pressure. In the last 20 years the writer and his colleagues have had under treatment at the Battle Creek Sanitarium more than 6,000 cases of high blood pressure. Of the entire number of cases, the blood pressure was brought back to nearly normal in more than 5,000 cases. But it is of the greatest importance that the exact condition of the patient should be known in every case before an application is made of the vigorous measures necessary to produce definite results. The accompanying cuts show clearly the value of the x-ray and the electrocardiograph in dealing with this class of cases.

Comparative Summary of the Chief Effects of Cold and Heat

Cold.	Heat.
General.	General.
Primary, depressant.	Primary, excitant.
Short, excitant by tonic reaction.	Short, depressant by atonic reaction.
Prolonged, depressant.	Prolonged, mixed, excitant, and depressant.
Special.	Special.
Skin: Action, diminished activity. Reaction, increased activity. Diminished sensibility.	Skin: Action, increased activity. Reaction, diminished activity. Diminished sensibility.
Cold.	Heat.
Heart: First quickened, then slowed. Increased force.	Heart: First slowed, then quickened. Decreased force.
Vessels: Action, contraction. Reaction, dilatation.	Vessels: Action, contraction, then dilatation.
Increased tone and activity.	Reaction, contraction.
Local anemia, collateral hyperemia.	Lowered tone—paralysis.
With reaction, local hyperemia, collateral anemia.	Local hyperemia, collateral anemia.
Short, reflex dilatation of visceral vessels.	With reaction, local anemia, collateral hyperemia.
Nerves: Benumbs and paralyzes. Excites by tonic reaction.	Short, reflex fluxion and derivative effects.
Muscles: Short, increased excitability and capacity.	Excites.
Prolonged, lessened excitability and capacity.	Depresses by atonic reaction.
Lungs: Slows and deepens respiration.	Muscles: Short, lessening fatigue effects.
Increased amount of respired air.	Prolonged, diminished capacity and excitability.
Increased CO ₂ .	Lungs: Quicken and facilitates respiration.
Increased respiratory quotient.	Diminished amount of respired air.
Stomach: Increased HCl and motor activity.	Decreased CO ₂ .
Kidneys: Congests and excites.	Diminished respiratory quotient.
Animal Heat: Short, increased heat production.	Stomach: Decreased HCl and motor activity.
Prolonged, diminished heat production.	Kidneys: Renders anemic and lessens activity.
Blood: Increased blood count, especially leucocytes.	Animal Heat: Short, diminished heat production.
Metabolism: Increased CO ₂ . Increased urea, and improved oxidation.	Prolonged, increased heat production.
Tonic Reaction.	Atonic Reaction.
1. Vasodilation.	1. Vasoconstriction.
2. Skin red.	2. Skin pale.
3. Pulse slowed.	3. Pulse rate increased.
4. Arterial tension increased.	4. Arterial tension diminished.
5. Skin action increased.	5. Skin action decreased.
6. Temperature lowered.	6. Temperature lowered.
7. Feeling of invigoration.	7. Languor.
8. Muscular capacity increased.	8. Muscular capacity decreased.
9. Amount of respired air increased.	9. Amount of respired air decreased.
10. Heat production increased.	10. Heat production decreased.

I think it is now coming to be generally recognized that no hospital can be considered up-to-date that has not a well equipped hydriatic installation. But it should be understood that an elaborate equipment is not essential for the efficient application of water. For example, here are a few of the uses of water which require no unusual or elaborate appliances of any sort.

Every hospital affords a great field for the employment of the marvelous virtues of water, hot or cold, as a means of relieving pain. The universal practice of administering anodynes for the relief of almost every sort of pain from which patients complain, especially in surgical cases, is a reproach to the medical profession. Many a patient owes the beginning of the morphia habit to a medical prescription for the relief of pain. The distress and inconvenience occasioned by the withdrawal of the drug, when it has been used for a few days, is often so great that it is doubtful whether the patient has on the whole gained anything in comfort by its use. A nurse on service in a well-known hospital, remarked to me when I inquired about the after care

of patients, "We always give a quarter grain of morphia after the operation, and for two nights following; but the third night we take it away, and *then we have an awful fight.*" The writer finds the use of anodynes rarely necessary, even in cases of abdominal surgery, almost never in nonsurgical cases.

More than 30 years ago I spent several months assisting the late Lawson Tait in his surgical work at Birmingham, England, and had an excellent opportunity to observe the results of his drugless methods in the after-care of his patients. Dr. Tait declared he would as soon shoot a patient as to administer an anodyne after laparotomy. He said, "I never give an opiate of any sort unless the

than thirty years I have used this as a routine measure, and the results are most gratifying. The measure most commonly employed is a hot leg pack or a hot hip and leg pack. The most convenient means for this purpose is a thermo-electrical blanket, which consists of a rug into which is interwoven wire or nickel or some similar metal. When heated by an electrical current the blanket is warmed, and any degree of heat desired may be secured. When moist heat is wanted, the body surface is covered with warm, moist towels before the blanket is applied.

This rug is placed upon the bed in readiness before the patient is brought from the operating room, and the heat is usually applied even before the patient has recovered consciousness from the anesthetic. It helps to combat shock as well as to make the patient comfortable. An application consisting of a blanket wrung out of hot water and applied from the hips down is equally effective, though less convenient. Fomentations to the legs, followed by heating compresses, are a convenient and efficient means, especially useful in cases of pain due to pelvic inflammation.

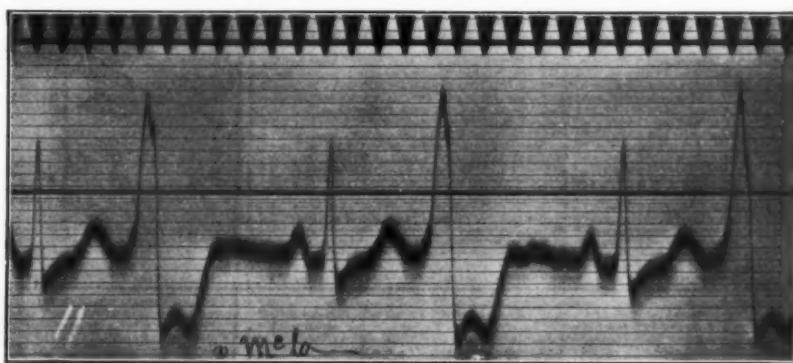
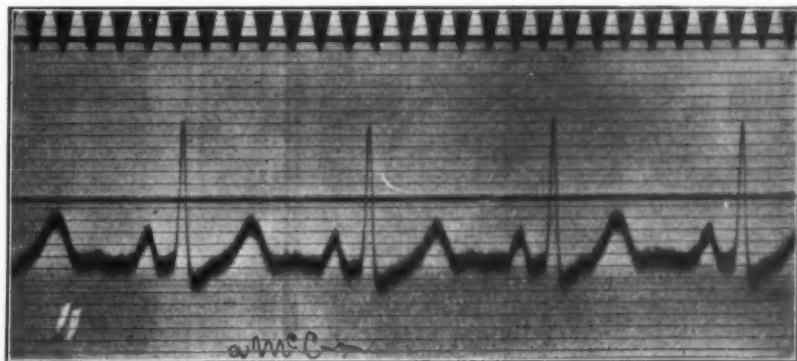


Fig. 1. Extra systole due to myocardial irritation (right ventricular) pulse bigeminus.

patient is going to die. Then I let him have anything he wants and as much as he wants."

At a time when the average mortality of abdominal operations was 25 per cent or more, Tait was able to show a record of 116 successive recoveries. For a number of years I rigorously followed Tait's method, supplemented by the hydriatic methods which I shall mention, and in 1895 I was able to publish a record of 165 successive abdominal operations for removal of diseased ovaries, tubes, or uterus, with the same number of successive recoveries. In more than 4,000 cases of operation involving the abdominal cavity, I have found the use of anodynes necessary in only a small proportion of cases; and when an anodyne has been resorted to it has rarely amounted to more than one or two doses of a single grain of codein, or a twelfth grain of heroin.

Everybody knows that the severe pains of dysmenorrhea can always be greatly modified and generally quite relieved by a foot or leg bath, or a hot hip or leg pack. A knowledge of this fact led me to employ these measures in the after treatment in cases of abdominal section, and for more



The same subject as in Fig. 1 after two weeks' hydriatic treatment. Pulse regular.

The idea that pain may be relieved by heat is by no means a modern one. Said Hippocrates, "When pain seizes the side, either at the commencement or at a later stage, it will not be improper to try to dissolve the pain by hot applications. Of hot applications the most powerful is hot water in a bottle, or bladder, or in a brazen vessel, or in an earthen one; but one must first apply something soft to the side, to prevent pain. A soft large sponge, squeezed out of hot water and applied, forms a good application; but it should be covered up above, for thus the heat will remain the longer, and at the same time the vapor will be prevented from being carried up to the pa-

tients breath, unless when this is thought of use, for sometimes it is the case. And further, barley or tares may be infused and boiled in diluted vinegar, stronger than it could be drank, and may then be sewed into bladders and applied; and one may use bran in like manner."

Water vs. Opiates

It is strange indeed that a measure so valuable, which has been known not only to the profession but to the laity for at least 2,500 years, should still be so much neglected in favor of the use of opium, one of the most insidious and pernicious drugs ever discovered by man. There can be no doubt that the average mortality of hospital cases might be notably diminished by the substitution of hydriatic measures of relieving pain for the opiates so commonly used.

Headache, due to congestion, may be easily relieved by first wetting the head with cold water, then applying over the whole head, forehead, and neck, a compress consisting of a cloth folded until about a half inch thick, or eight or ten thicknesses of cheese-cloth, wet in very cold water or ice water, wrung lightly. If the pain and congestion

thicknesses wrung from water at ordinary temperature, and fanning to promote rapid evaporation.

Neuralgic pain, being due to a lack of blood, requires a different form of application than pain due to congestion. Hot applications are just as successful in alleviating neuralgic pain as are cold compresses in pain resulting from congestion and inflammation. For the relief of neuralgic pain, it is of primary importance to remember that the water must be as hot as the patient can bear. The application should be so hot as to make it necessary to take it off and put it on two or three times, until the patient's skin can bear it. Commencing the application at about 110°, the skin

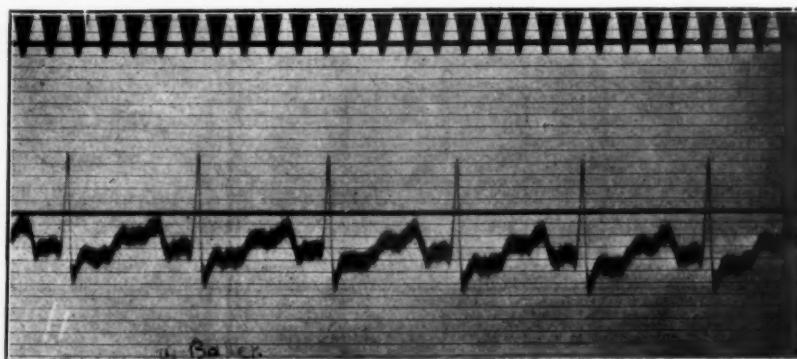


Fig. 3. Electrocardiogram. Man. Tachycardia. (Pulse 130). Prolonged P-R interval (28 per cent).

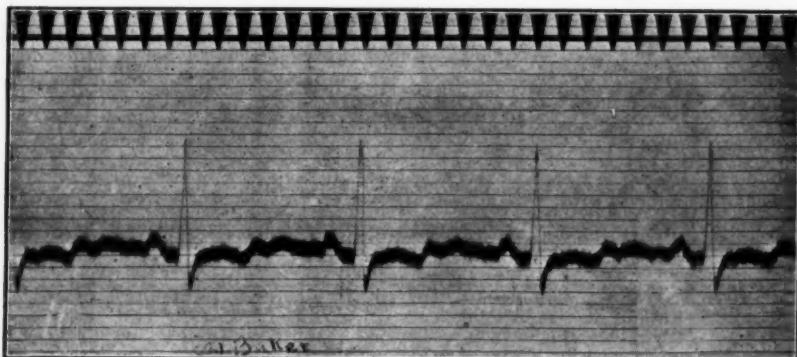


Fig. 4. Same subject as Fig. 3 after six weeks' treatment. P-R interval normal (14 per cent).

are severe, the application may be made to include the whole scalp and forehead. The good effect can be still further intensified by applying a very cold compress about the neck and face. The compress should not be allowed to become warm, as the congestion and pain will be intensified in the reaction which would occur. To avoid this, it is well to have two compresses, the second compress being made ready for application on removal of the first. The change should be made at least every five or six minutes. If very cold water or ice water is not accessible, excellent results may be obtained by applying compresses of three or four

will gradually acquire a tolerance for heat until a temperature of 120° can be borne. Facial neuralgia, neuralgia of the stomach, intestines, or bladder, lumbago, sciatica, in fact, almost any form of neuralgia, is relieved by the application of intense heat. It should be remembered that the hot treatment is not to be continued indefinitely—fifteen or twenty minutes is sufficiently long, and it should be immediately followed by the application of a towel or compress wrung very dry

from ice-water and left in place for thirty seconds. The parts should then be covered with dry flannel, which will greatly prolong the effect of the hot application. These hot applications may be repeated every two or three hours.

The pain of pleurisy is best relieved by very hot applications, as fomentations, a rubber bag filled with hot water, hot bricks, hot sand-bags, or similar means. The same means may be employed for the relief of pain in the stomach, as in ordinary colic, also in hepatic colic, renal colic, and other painful affections. For the relief of such pains, the fomentations should be as hot as can

be borne, or from 140° to 160° F., when first wrung out.

Fomentations are also very useful when the pain in the bowels or abdominal region is due to local inflammation of some sort, as peritonitis, inflammation of the small or large intestines, or other abdominal or pelvic viscera. The applications should not be continued more than fifteen or twenty minutes, when a cool compress changed every ten minutes should be applied for an hour or two, after which the fomentation may be renewed.

Pain in the pelvic region may in many cases be relieved by the use of a hot enema. The application may be repeated several times a day. The quantity of water introduced at once should not be more than one or two pints after the bowels have been emptied, as the application is designed for the lower pelvis. The water should be retained five minutes, when it may be allowed to escape, and a fresh quantity introduced, this being repeated from three to six times. It is not necessary to remove the rectal tube; by detaching the tube from the fountain and lowering the end, the water will escape into a suitable vessel. The patient should lie on the back, to avoid filling the colon to a higher level than is necessary.

Cold water is a veritable Hercules of tonics. Strychnia and other drugs which are supposed to produce tonic effects are deceptive. They do not energize the body; they only render possible the further exhaustion of the body's store of energy; whereas, physiologic tonic, such as cold air or cold water, add to the vital resources of the body by increasing functional efficiency. Medicinal tonics, so-called, are universally toxic in character. Whatever tonic effects they seem to produce are due to the fact that the system is aroused to resist their influence.

A medicinal stimulant is a mortgage placed upon the vital capital of the body which must be paid sooner or later. It is a draft upon the constitution.

A toxic agent like strychnia may provoke the expenditure of nervous energy, but it does not replenish energy; while it does lessen the activity of the kidneys in eliminating tissue poisons and the efficiency of the liver in the destruction of toxins and leucomains, thus encouraging the development and maintenance of a condition which

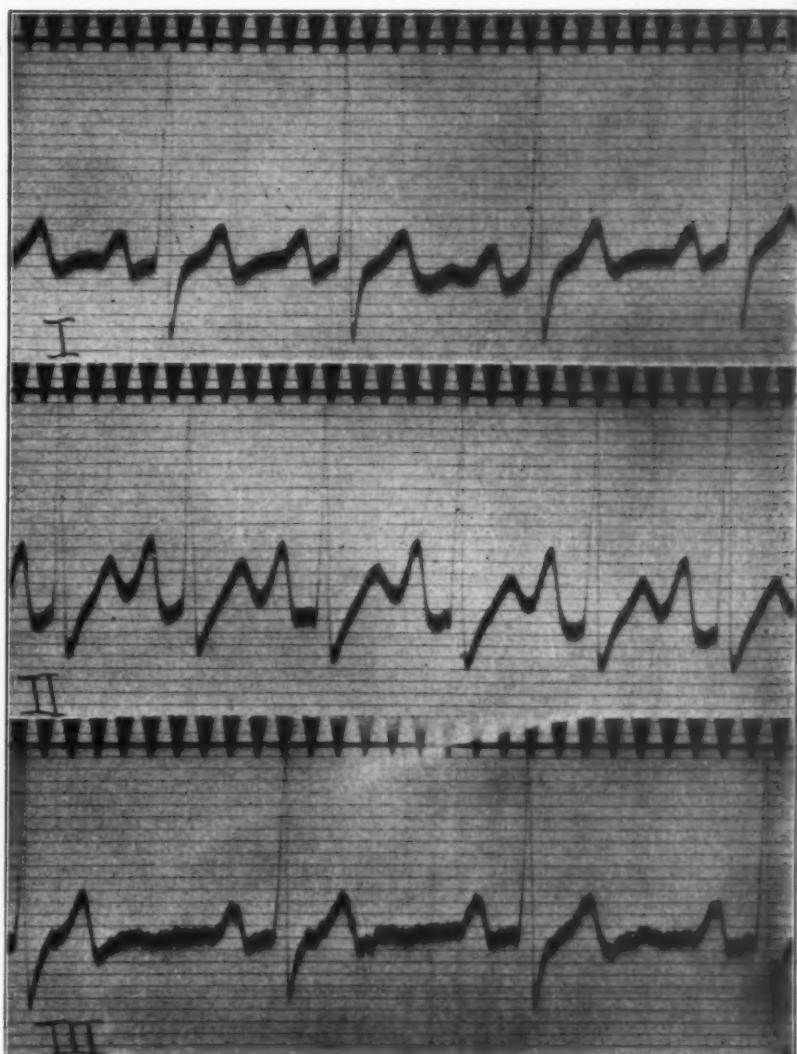


Fig. 5. Electrocardiograms. Man, age 20, apparently well (mitralstenosis?). I. Normal. II. After hot bath. III. After cold bath (60 degrees F.).

is, in itself, an indication for the necessity of employing tonic measures.

The only way that the energy granules of a cell can be augmented is by the assimilation of food material from the blood, and the development of energy-containing particles. Cold water surpasses all other agents in its power to promote the normal energy-storing processes. Cold applications also facilitate to a very remarkable degree the discharge of nervous energy when a sufficient store exists, though sometimes it may not be available because its useful application is hindered by the influence of retained excretion or nerve-numbing toxins generated within the tissues or absorbed from the alimentary canal. This effect of water is readily apparent in the influence of the cold bath upon muscular energy, and also in the sensation of well-being, buoyancy, and readiness for exertion which results from the application of cold water.

A person who has never experienced the glow

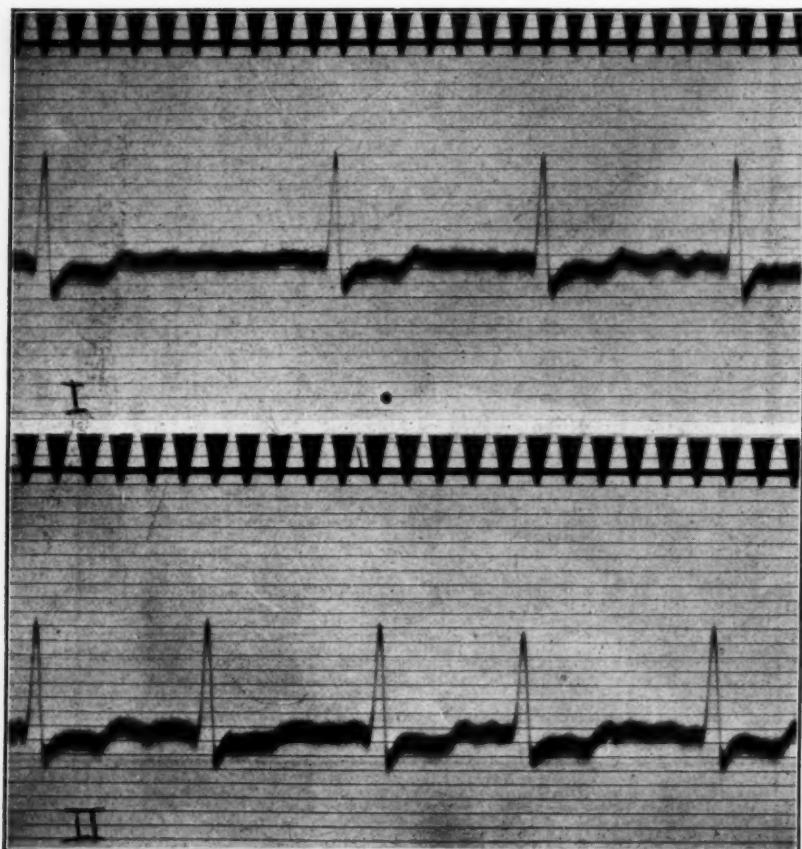


Fig. 6. Electrocardiograms, showing auricular fibrillation. I. Before treatment. II. After application of ice bags over heart for 10 minutes.

of exhilaration, the invigoration and buoyancy of body and mind, which accompany the state of reaction from a short, general cold application, can not well appreciate the value or significance of the cold bath as a physiological stimulant. It is not too much to say it is of all measures known to men, the most valuable as a means of arousing to activity the flagging energies of the body, and lifting the enervated invalid out of the morasses and quagmires of chronic disease.

The reaction produced by tonic applications fills the skin with blood; and if it is daily repeated, the blood is finally fixed in the skin, thus permanently increasing its vascular activity, and relieving internal congestion.

The hidebound animal suffers from visceral congestion because of the deficient amount of blood in the skin and the excessive massing of blood in the internal organs.

The patient with a dry, dingy, inactive skin is in much the same condition as a hidebound horse. Sweating baths, followed by cold applications to the skin, will in a few weeks accomplish wonders for such a patient. The most convenient tonic measures are the cold mitten friction, the cold towel rub, the cold half sheet rub, the rubbing wet sheet and the cold douche. The relative vigor of these applications is in the order named, be-

ginning with the simple mitten friction, which may itself be graduated so as to meet the needs of the very feeblest patients.

Sedative Measures

The sedative effect of prolonged moderate cold application is truly remarkable. Severe menorrhagia or metrorrhagia, which is not relieved by curettage or medicinal measures of any sort, rarely fails promptly to respond to the prolonged cool sitz, either with or without hot irrigation. To be efficient, the temperature should be below 70° F. and the duration of the bath, fifteen or thirty minutes. The patient is kept warm in the meantime by warm blankets. If necessary, the feet may be placed in a hot bath. By the application of ice bags, or the 60° F. compress to the chest, the heart action may be slowed and the character of the pulse improved in cases in digitalis seems to produce little effect.

One of the most valuable of all sedative means is the neutral bath, the effect of which in quieting the

central nervous system is little less than magical.

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Some years ago the superintendent of the insane asylum at Kankakee, Ill., asked me to send an assistant to give instruction to his nurses in massage. I sent a young graduate and instructed him to watch for an opportunity to make known the value of the neutral bath as a means of quieting disturbed patients. A couple of years later I happened to be in Kankakee and called at the hospital. Meeting the superintendent, he at once began telling me of a circumstance which had made a great impression upon his mind. He said, "That young man you sent to us rendered us very great service. He told us about the neutral bath and demonstrated its value in the case of a patient who was so violently disturbed that six nurses were required to control her, and who could not be made to sleep except by the use of chloroform. Under his instructions she was placed in a bath at 95° F. and in fifteen minutes she became quiet, and after two hours fell asleep and slept well the following night. The neutral bath was used daily thereafter and in three months she was well."

This circumstance led to the introduction of the

neutral bath and a hydriatic installation in all the state hospitals of Illinois, and I think there are at the present time few hospitals for the insane in which the neutral bath is not employed.

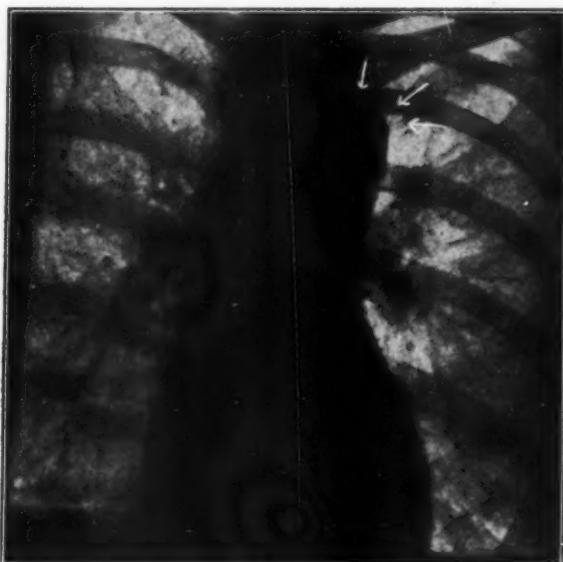


Fig. 7. Atheromatous platelets in the aortic arch (at arrows).

In the Educational Building of the Panama-Pacific Exhibition in San Francisco, the State of New York had a splendid exhibit of its method of treating the insane.

I asked the physician in charge, "What do you do for disturbed patients who cannot sleep?" He pointed to an electric light bath, a shower bath and a tub conveniently arranged for a continuous bath, and said, "These are our remedies."



Fig. 8. Illustrating the method of cardiac menstrogram. In this case the left diameters are all increased. Aortic type of heart.

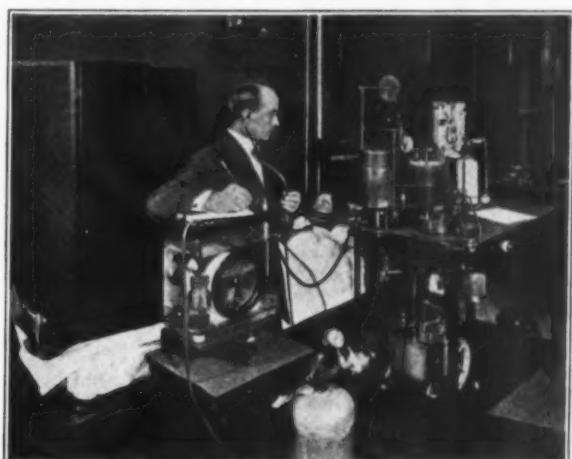


Fig. 9. The first respiration apparatus (Benedict's) installed for systematic chemical use at the Battle Creek Sanitarium (1912).

"But," said I, "when you have a very badly disturbed patient don't you use drugs of some sort?"

"No, indeed," he said. "We only use these measures. A patient who is greatly disturbed goes into a tub and remains until he becomes quiet. It may be an hour or two, or ten or twelve hours, but he ultimately becomes quiet and goes to sleep."

Of course, the neutral bath is not a panacea for insomnia. Exciting and predisposing causes must be removed. But there is no drug which compares in value with the neutral bath as a hypnotic.

These few suggestions are a mere hint of the almost limitless usefulness of hydriatic procedures in hospital practice. From the writer's standpoint all other remedial agents might be eliminated with less loss than water alone. It is a whole *armanentarium medicorum* of itself.



Fig. 10. Oblique roentgenogram of chest, showing atheromatous arch and descending aorta.



HELIOTHERAPY. open air schools for the pre-tuberculous, and manual training for the feeble-minded are here shown as typical parts of child welfare work in old Italy. Stazione Elisterapica, Genoa, located on the beach, is sheltered from the north winds and has an exposure which gives it a temperature from two to four degrees above that on the street which is on a level with the roof of the house. The children are shown at lunch, and on the terrace undergoing the sun-cure.

The Open Air School on the strand holds its winter

sessions in this public sanatorium. The Asilo, or Open Air School at Genoa, is a home provided for the well children of tuberculous parents by the Genoese Anti-Tuberculous Association. Similar homes are maintained for children who have been infected.

The manual training class is from the "Senola Autonoma" for deficient and backward children, Genoa. (Pictures supplied by Miss Edna L. Foley, Chicago, during her service in Italy on the Tuberculosis Commission of the American Red Cross.



THE UNIVERSITY IN RELATION TO NURSING EDUCATION*

BY ETHEL JOHNS, R.N., DIRECTOR OF NURSING, VANCOUVER GENERAL HOSPITAL, AND IN CHARGE OF DEPARTMENT OF NURSING IN THE UNIVERSITY OF BRITISH COLUMBIA

THE purpose of this sketch is not to give a survey of education in general and nursing education in particular. It will not compare nor appraise the departments of nursing now existing in various universities on the American continent. The historical aspect of the movement toward the higher education for nurses, fascinating as it is, cannot even be touched upon. It takes no cognizance of statistics, though these are available. All I can hope to do in the brief time allotted me is to demonstrate to you the crying need for the broader education of nurses in Canada today. If at the same time it can be shown that the universities of our country are the logical centers for such education, I shall be satisfied. If further it shall appear that those who urge this reform are neither wild-eyed enthusiasts nor sentimental theorists, but women who, to paraphrase Kipling, "Be neither saint nor sage, but simply those who do the work for which they draw the wage"—why then I shall have succeeded beyond my best expectation.

The education of nurses has received more attention in the last five years than during any previous period in history. The reason is simple. Whether nursing is or is not a profession, is a debatable question, but that it is a vital art bearing upon life has been amply, even tragically, proven during the war and the epidemics which followed it, and during the period of so-called reconstruction through which we are now passing.

This focusing of public interest has shed upon us a light that is somewhat disconcerting. The veil of sentimentality disappears and we appear as we really are—a group of community servants, entirely well intentioned, but more or less ill prepared for our task. The inquiry now being conducted by the Rockefeller Foundation regarding nursing and the education of nurses will entail

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One aspect of this development has been the establishment by our universities of courses in nursing education. These courses have in view education for leadership, not the establishment of impossibly high standards for the rank and file.

The most pressing need—that of post-graduate study—having first been met, a new development is now in process of taking place. Several universities in the United States and one in Canada are now offering what is called the combined course, leading to a degree in nursing and a diploma of the hospital as a graduate nurse.

some extraordinary revelations, but it cannot fail to demonstrate the one salient fact that the policy of *laissez faire* in nursing education is discredited by its results and that a sane, sound, reasoned plan needs to be formulated and to be put into operation under able leadership as soon as may be.

Present conditions in nursing education in Canada may be rapidly summed up as follows: In Canada today any per-

son or group of persons may assemble a number of sick persons under a roof and call that place a hospital. Further, they may inaugurate a nursing school, may offer to young women instruction in one of the most vital and difficult of arts. It would be reasonable to suppose that before so doing it would be necessary to assure some competent educational authority that conditions in that school were such as would insure the pupil competent instruction and proper living and working conditions. Such is not the case. The only point in which specific legislation exists in most of our provinces is that a certain minimum number of beds—*beds*, mark you, *not patients*, must be available before a training school is established. And what is that minimum? In some provinces as high as twenty-five, in others as low as five. No mention of qualified instructors, no restriction as to hours of duty, no provision for teaching equipment—just beds and pupils. The fact that many hospitals, large and small, do their best to keep faith with their pupils is beside the point. They do so of their own free will. They are not obligated so to do. No competent authority at present exists which guarantees that pupils entering training schools will receive sound, systematic instruction in their chosen calling. An attempt has been made by associations of nurses to lay down certain standards and to conduct inspection. This is a move in the right direction.

Inspection will doubtless help to standardize

*Read at the Joint Session of the British Columbia Hospital Association and the Canadian Public Health Association, June 23-26, 1920.

conditions in our schools, but inspection must carry with it more authority than at present or its usefulness is limited.

What does the hospital exact from the pupil in return for unstandardized instruction? It exacts three years of disciplined service. I would like to emphasize that word disciplined. Pupil nurses are one of the few remaining *disciplined* groups in the chaos of our modern civilization. True, discipline, even in schools for nursing, is much more lax than in former years, but still the organization of most training schools remains essentially disciplinary. The value to the hospital of this condition of service—I had almost said servitude—is incalculable, but unfortunately the hospitals have been tempted to exploit it to such an extent that it is becoming more and more difficult to recruit pupils except for such schools as are known to be able and willing to maintain high standards. The proverb of the killing of the goose which laid the golden eggs has never been more aptly illustrated than in the present shortage of pupils,—a direct consequence of the old methods of exploitation. It is not just to lay all the blame on the hospitals. In the last analysis the problem is largely economic. The pupil nurse was and is a cheap and efficient working force. Relatively few hospitals, large or small, in Canada, are established on a firm financial basis. Not the least of their financial anxieties is the ever-increasing salary list. The solution, for the time, was easy, so long as pupils presented themselves for training in sufficient numbers.

Now that they do not, what is to be done? The logical answer is: Make conditions more attractive. But how? Better living condition? Yes. Shorter hours? Yes. Higher money allowances? No; pupils enter for training, not as a means of livelihood. What else? More important than all, better teaching, more thorough preparation, wider opportunity for self-development; and the last is, in my opinion, the most important of all. Pupils today are discriminating, and rightly so. They compare standards in various schools before making application to any. They do not necessarily chose the largest school. Many applicants have said, "It is a small school, but we get as good teaching there"; or, "They offer affiliation in certain branches," or, "The superintendent of nurses is very able; she moulds her women." Pupils sit in judgment of the educational standards of their school far more than the medical staff or the directorates of hospitals realize.

If good teaching is a factor in the success of any training school, it surely should not be difficult to provide *that*. Just get a competent woman for director and she will see about it. But will

she? How many competent nurse administrators can teach? How many can plan curricula? Some of them have natural teaching ability—more have not. Even the first group have had little or no opportunity in developing or educating their teaching faculty. Until the department of nursing in Teachers College, Columbia University, opened its doors to women desiring to qualify as nurse teachers and administrators, there was no institution to which women desiring such training could turn. This department was founded by Miss Adelaide Nutting and Mrs. Isabel Hampton Robb, both former superintendents of the School of Nursing of the Johns Hopkins Hospital. This brings me to my real topic—the University as a factor in the Education of Nurses. All that precedes was background—I hope not unduly black, against which I hope to show the true logic and reasonableness of this modern movement toward the university, a movement which has not been without its critics and detractors. Miss Nutting and Mrs. Robb were possessed of the divine gift of vision. They saw that, for good or ill, nursing must enlarge the place of its habitation. They were besieged with demands for teachers and administrators in schools for nursing. Above all, they realized the necessity of establishing standards. There seemed no logical means of establishing such standards except through an independent educational body such as the university. The modern field of public health and of social service cried out that the harvest was plenteous but the laborers were few. Women of native ability equipped only with their training school experience were drafted into these new fields, found that their education was inadequate, and looked about for opportunities for post-graduate study.

Where were they to go but to the university? Their training schools had given them all they could. Thus came about the courageous experiment in Teachers College which has had such momentous results. Fire from the torch these pioneers kindled has been passed from hand to hand till there are now more than twenty universities on the American continent taking cognizance of nursing education. The most pressing need—that of post-graduate study—had first to be met, but a new development is now in process of taking place. Firmer foundations are being laid. Several universities in the United States and one in Canada—the University of British Columbia—now offer what, for want of a better term, is called the combined course leading to a degree in nursing. A brief sketch of the course in this university will illustrate the general plans of all. Students must possess matriculation

standing. Two full years' academic work is required, during which the student receives instruction in the basic sciences of chemistry, biology, and bacteriology, in addition to English history and economics. Before she begins her academic work, or in the interval between the first and second years, she enters an approved training school for nurses, undergoes rigid physical examination and serves a probationary period intended to prove her general fitness and adaptability for nursing. At the close of two years' academic work she re-enters the training school as a pupil nurse and undergoes two years' intensive nursing training. The fifth year is partly academic and partly field work. During this year she elects one of two majors—either teaching and administration of schools for nurses, or public health. At the conclusion of her five years' course she is eligible for the degree in nursing conferred by the university and for the diploma of the hospital as a graduate nurse. It may, I submit, be contended that a woman possessing training such as this will be capable of enlightened leadership and direction once she has acquired the necessary practical experience in her chosen field. Especially is this true of the field of public health. It is plainly shown at a gathering of this nature what ambitious programs of public health are being formulated in the various provinces. But where is the nursing personnel to come from? There is not, I am sure, a public health or hospital administrator within sound of my voice who is not at his or her wits' end to solve this riddle of the sphinx. The dearth of women who are able to fill acceptably positions requiring initiative and executive ability is appalling. There are plenty of good nurses, but they have not sufficient educational background to fit them for such tasks, nor in the past has it been possible for them to obtain it. I can speak feelingly for the training schools,—competent instructors of nursing are very rare. Teachers College has now on its books more than three hundred applications for women to fill positions of this kind in all parts of the United States and Canada, which, so far, cannot be filled because nurses are not presenting themselves in sufficient numbers. The training schools would once have been the source. Now there is a better one—the training school and the university. The discipline and devotion to the technical training of the one grafted on the broad culture of the other. Hospitals searching for competent superintendents, capable of leadership, will look here also. Many a hospital directorate today would respond to an appeal for better teaching conditions if their superintendent could formulate such conditions and direct them and carry them

through after formulation. Show them what to do and they will do it. It is education for leadership we are striving to obtain, not an impossibly high standard for the rank and file. Not that the rank and file are debarred. Opportunities for post-graduate study are now available in many centers in the United States and also in Canada. During the past winter a short course in public health nursing was given to graduate nurses in Dalhousie University which was a model of its kind. Students in this course were given instruction in economic, sociological, and scientific subjects bearing directly upon their work. At the same time they visited the social welfare organizations of the district and were given opportunity for a certain amount of field work. Students who took this and similar courses given elsewhere speak enthusiastically of the inspiration and help it has been to them in their work. The only fault they have to find is that they did not get enough. The taste for knowledge was aroused, not satisfied. Not for nothing is the motto of the American Association of Public Health Nursing "When the desire cometh it is a tree of life."

In the United States the experimental stage of the movement toward the university may be said to be passing. It will not be long before the same is true of Canada. Short courses in social service and group lectures to pupil nurses are being given in the University of Toronto. The universities of Saskatchewan, of Alberta, and of Manitoba are swinging into line, and even that stronghold of conservatism, the University of McGill, is reported to be considering a department of nursing. As yet, the University of British Columbia is the only one in Canada to offer the course leading to the degree. It has the distinction of being the first in the British Empire so to do. Eight students are enrolled, three of whom will graduate in 1923 as Bachelors of Nursing. It is far too early to gauge results from the combined course. We are building here for the future, but we earnestly hope that the foundation will be well and truly laid.

Now, in this connection a word of explanation is necessary. It has been intimated that the higher education of nurses has its critics and detractors. Let us examine these criticisms for a moment.

One commonly heard is that nurses will become so superior that they will refuse to perform their real function—that of nursing the sick; that they will, in the phrase of the street, "get too big for their job." If by that is meant that many of the more highly qualified will choose positions involving responsibility and direction in preference to bedside nursing, the criticism is true. But is

there any reason why they should not accept the higher, more far reaching responsibility if they are duly qualified? Will they not insure a better type of bedside care by their very ability to supervise and to direct others? The number of women who will choose or who are fit for the higher reaches will be necessarily small. It is not intended for one moment to recommend that all pupils be compelled to take the combined course.

Further, there is a growing conviction that another nursing group than that which now exists will soon have to be formed. Many routine nursing and domestic duties now performed by the graduate nurse could be performed just as acceptably by women possessing less training, provided they were properly trained and supervised. The Canadian National Association of Trained Nurses has gone on record as endorsing the principle of training licensed attendants, provided legislation can be devised which will protect the graduate nurse and prevent these women assuming a status which does not rightfully belong to them. In other words, nurses at large realize to the full the necessity for an auxiliary nursing force, and they are willing to recruit, to organize, to educate and to direct such a force, provided they themselves are not wiped out of existence by the unfair competition such a group would involve unless its field of operation were definitely established by law. The creation of such a force only emphasizes the need for competent leadership. Left to itself, it could easily become a menace to the public and to the medical profession. Suitably officered and directed, it will be of great benefit to both.

It is undeniable that the medical profession has been greatly hampered for need of just such service as such a group could render. It is the circumstances which have given rise to recent opposition on the part of some medical men to any advanced standard in nursing education. That such opposition exists is unfortunately true. A few medical societies as well as individuals in the United States and Canada have gone on record as opposing higher education for nurses. The most charitable interpretation which can be made of such action is that it was taken in ignorance of the true facts of the case. The very men who took it are condemned out of their own mouths, for they themselves exact the highest technical efficiency for nurses in certain branches in which they themselves are specialists. The modern operating room nurse, the modern supervisor of obstetrical and eye, ear, nose and throat departments are required to possess unusual technical skill and theoretical knowledge. They are required to possess them by the very men who cry out for a return of the good old days when an old woman

who would do what she was told was all that a man needed. What these men do not stop to consider is that they require, and are justified in requiring, two separate and distinct types of service—the fully trained, highly specialized type, and the fully trained routine worker. The trouble is that they insist that the same worker shall adapt herself and become at the will of the physician employing her, the one or the other, or both. Gentlemen, with the best will in the world, it cannot be done. Those of us upon whom is laid the heavy task of preparing the women of either type for their life work know that it cannot. The same blind routine cannot and will not meet either need. Specialized methods of education must be formulated for both, suitable teachers must be provided for both. And so we return to the need of education for leadership, and there is no logical source for that but the university. Such a high authority as Mr. Justice Hodgins, in his recent report on medical education in Ontario, stated that, so far, whatever betterment had been brought about in nursing education had been due to the efforts of the nurses themselves. In a measure, this is true. But if we have had opposition from the medical profession and from the laity, we have also had most generous support. Men and women in both walks of life have believed in us and in our cause. This province is an illustration of that fact. The establishment of a department of nursing in the University of British Columbia is largely due to the vision and energy of a physician, the executive head of the Vancouver General Hospital. The chancellor of the university, also a physician, has stood its staunch friend, as has the provincial officer of health for this province. The relation in which these men stand to the community has demonstrated to them that something must be done to enlarge the mental horizon of women upon whom such heavy responsibility is being laid.

To those who are in opposition or are in doubt, one last word, if there are any of such here: Will you not listen to the appeal of those upon whose shoulders you yourselves lay such heavy burdens? You see so many faults, so many blunders in our nursing service. So do we; they are not hidden from us. You cannot imagine why things should not run more smoothly, but we can; we know it is because of insufficient teaching and supervision. You do not realize how complex your own profession has become. How can we expect you to realize how difficult it is for us, with few of your educational advantages, to keep up with the advance shown in medicine? And yet we have tried to keep up. Slowly but surely the routine processes of medicine are being delegated to us. We

are expected to give acceptable service as anesthetists, as laboratory and x-ray technicians, as your field workers in preventive medicine. You have taken us for granted, as men always take their women folk for granted.

If we had not wished to develop ourselves you would have forced development upon us. Some years ago I stood and watched with a high heart the woman's suffrage parade in New York City. Near the end of the long procession, in which women from every walk of life participated, came a group of young girls with a banner inscribed, "All this comes of teaching girls to read." Remember, you taught us our letters in nursing. You should not have set our feet upon the road if you did not mean that we should climb the hill. You should not have taught us our letters if you meant that we were not to read to the end of the chapter.

But most of you do mean that we shall so read, and we shall convert the others. In the meantime, what can you do to help? Well, hope all things and believe all things of us. Reserve judgment and be patient with our failures. Throw the weight of your great influence on our side. Don't pass resolutions condemning the higher education of nurses unless you really must. This movement cannot be killed; it can be retarded, it can be prejudiced in the eyes of the public by so doing. Give us a fighting chance, a fair field, and no favor.

There is a long, uphill struggle ahead of us. The universities are sympathetic, but their sympathy is tempered with caution. At first they felt that opening their jealously guarded portals to nurses meant lowering the standards for the maintenance of which they exist. Once it was clear to them that we were willing to have our students meet the same requirements as the rest of the student body, they became more friendly. But the fact must be faced that we constitute a serious educational problem to them. Suitably equipped personnel for the faculty of nursing is difficult to obtain. Few of us possess full academic standing—no precedents exist. Compromise is necessary. No one knows that better than the pioneers of this movement. But before long adequately prepared women, the output of the combined courses, will be available. Until then we must carry on as best we can.

You are met here to consider ways and means whereby the community may be better served in health matters. The educational phase of this gigantic task is continually emphasized in your discussions. Surely we can enlist your sympathy in support of a movement which has as its object the development of a nursing force worthy of the

cause to which it and you alike are dedicated—the prevention of disease and the conservation of life lived to the full, active, healthy, and happy.

THE RED CROSS ROLL CALL

The Fourth Red Cross Roll Call will be held from Armistice Day, November 11, to Thanksgiving Day, November 25, next. Hereafter every anniversary of the end of hostilities in the World War will be the occasion for the American public to renew its Red Cross allegiance through dollar memberships.

This was made known recently by Dr. Livingston Farrand, chairman of the Central Committee, when he announced that as a result of the last roll call the Red Cross now has more than ten million members. This is more than twenty times the pre-war membership of the society and does not take into account the fourteen million school children who are members of the Junior Red Cross.

The membership dollars will be used to further the gigantic peace time activities of the American Red Cross, which are:

To continue work for America's veterans of the World War, particularly the disabled. At the Red Cross Institute for the Blind, near Baltimore, more than half of the American soldiers blinded in the World War have already been trained for living and earning without their sight.

To serve our peace time Army and Navy. The Government has requested the Red Cross to continue this responsibility, particularly that of acting "as a connecting link between the enlisted men and their families."

To develop stouter national resistance to disease through health centers. The Red Cross chapter in Seattle, Wash., alone is establishing twenty-five Red Cross health centers in the towns of King and Kitsap counties.

To increase the country's nursing resources and to cooperate with official health agencies. When influenza visited New York City, the Red Cross supplied 12,600 blankets, towels, nightgowns, layettes, and other sick room articles within a few hours. In Chicago, 14,000 women trained by the Red Cross during the war were called to sick room service.

To continue preparedness for disaster relief. Mobile relief units, consisting of food and medical supplies, are stored in Red Cross warehouses all over the country. In time of disaster they can be rushed to the stricken community.

To continue Home Service and community work. Red Cross Home Service workers are in forty-five U. S. Public Health Service hospitals, with a possible population of 10,000 patients.

To complete relief work among the war-exhausted and disease-ridden people of Europe. Ten millions of the 40,000,000 souls in the Balkan states alone were beneficiaries of Red Cross bounty in seventeen months of relief work there. The food and clothing and medical relief supplied are given as "gifts of the American people."

The Chirp in Canaries

A couple of pitmen up in London for a holiday halted in front of a brass plate fixed on the front of a house, whereon was inscribed in bold characters the word "chirropodist."

"Chirrupodists," remarked one of them perplexedly. "What's that?"

"Why," said his companion, "a chirrupodist is a chap that teaches canaries to whistle."—*Blighty*, London.

THE SPIRIT OF BETH ISRAEL.

BY LOUIS J. FRANK, SUPERINTENDENT, BETH ISRAEL HOSPITAL, NEW YORK CITY

IT IS not my purpose, in the few paragraphs that I have here written, to add another description to the physical contour of a big hospital. All hospitals are alike in essentials. They have wards and beds and operating rooms and offices. I shall attempt here to dissect, if I can, the soul of the hospital,—its spirit, without which such an institution is but a pile of heavy bricks expressing a function but no thought, incorporating a physical fact without embracing a spiritual ideal.

Hospitals are an evolution of the spirit of human charity and were first established during the pontificate of Innocent III, in the thirteenth century. The good-hearted monks and the benevolent friars (upon whom much reproach has been cast by their numerous escapades as pictured in the writing of Boccacio and Masuchio) did much that was kind and good towards their fellow-poor, in spite of the escapades which they may have enjoyed. Even then, the coat of arms of all hospitals might have borne the device which the Plantagenets had engraved on their escutcheon, "Ich dien—I serve." For it is the recognized purpose of all houses where the sick are cared for to foster a spirit of self-abnegation; to inculcate meekness in the hearts of the attendants and to inspire confidence in those that are afflicted and come for help and assistance.

Evidently, however, in modern times the self-sacrificing spirit of the ancient nuns and friars seems to be not so prevalent. Hospitals, which are built for the sick, are so managed that the sick are the only ones that do not find themselves at home in these institutions.

Functions of the Hospital

What is the function of the hospital—of the privately organized, charitably endowed institution? The lay public will answer that it is to take care of the sick and ailing of the vicinity. Those, however, who are intimately connected with the institution have a well grounded notion that the lay public is all wrong. To them it ap-

It appears to me that the radical change ought to begin in the spirit of the institution. Each patient is an individual, all-important, all-suffering, who comes to the hospital not to undergo a series of petty rebukes or a course in Prussian discipline.

The hospital has been built for him, and for him only. All others are there to see to his comfort, attend to his wants, and promote his well being. He is not to be buffeted around, punished by some menials, disguised as nurses or physicians or superintendent; his tastes are to be consulted; his friends and relatives who come to visit him treated with the courtesy and kindness due all respectable people.

pears that the hospital is run for the well; that the comforts of the patient have secondary consideration; that all plans and methods for change are only entered upon at the instigation of some individual who derives benefit therefrom.

We all know that politicians seeking office are the "servants of the people," and become masters upon election. So it is with hospital institutions.

The vanity of the physician, the conceit of the nursing attendants, the false dignity of the managing authorities, including the superintendent of the hospital, all seem to act as a damper upon the spirits of those that come to the hospital for aid. The hospitals, which were erected for the sick, are really built and managed for the convenience of those that are in attendance—the doctors and their entourage.

It appears to me that the radical change ought to begin in the spirit of the institution. Each patient is an individual, all-important, all-suffering, who comes to the hospital not to undergo a series of petty rebukes or a course in Prussian discipline. The hospital has been built for him, and for him only. All others are there to see to his comfort, attend to his wants, and promote his well being. He is not to be buffeted around, punished by some menials, disguised as nurses or physicians or superintendent; his tastes are to be consulted; his friends and relatives who come to visit him treated with the courtesy and kindness due all respectable people.

It is a very difficult matter to cure the body if the spirit is depressed. One cannot take away a human being from his dear ones and surround him with military discipline, remove all homelike influence, forbid the frequent visits of his relatives and friends, inspire a great awe and fear of the physician and his armamentarium, and expect the patient (that sick bundle of jangling, painful nerves) to recuperate promptly, and to feel happy and contented. It cannot be done. It is true that the body must be attended to, but it is essential, if proper and speedy recovery is the

aim of the hospital, to heal and soothe the mental disturbances.

Why Hospitals Are Built

It frequently happens that hospitals are built for no other purpose save to secure staff positions for visiting physicians. Whether the hospital is necessary, whether the physicians are able, whether there are funds sufficient to conduct it, whether the neighborhood desires such an institution, are seemingly questions of no import to that little coterie of individuals who are bent upon establishing such an institution for commercial purposes. Laws and regulations are made and eventually enforced which add greatly to the comfort and convenience of the authorities. "Thou shalt not do this, and thou shalt do that" are inscribed in flamboyant letters all over the building. The comfort and convenience of the sick are not necessarily heeded. The regulation is good if it benefits the authorities, poor if it does not. And so, human beings, when they are most in need of comfort and consolation, when they are weak in body and much depressed in mind, are huddled into wards of beds, immaculately clean, where they are ordered to lie still and not to toss about, and to obey the various ukases that the authorities have foisted upon the institution. And thus we have it that there has been implanted in the hearts and souls of the great masses of the poor a deep and dark terror and horror of falling sick and of being transferred to hospitals where they have heard all that is dreadful is being practiced. They are afraid of the petty persecutions of the pettier officials. They fear the treatment that may be meted out to them by grafting orderlies and vain nurses, and they will permit themselves to be transferred to the hospital only as a last resort. Among the lay public, the fear of the hospital is almost as strong as was in the middle of the last century the fear of the poorhouse in England.

It is spirit that rules the world, and we have attempted to make the spirit of Beth Israel Hospital different.

All At the Service of the Patient

Great things may be done in small surroundings and a lot of good measured out unobtrusively and modestly. We have endeavored to eradicate much that is called good but is truly evil. We have made it our ambition so to treat the patients that honor us by confiding the safekeeping of their lives into our hands that they will feel that the utmost that was in us was at their service. *We minister to the man besides curing the disease.* We endeavor to surround the patient with all those spiritual comforts, so that his bodily recov-

ery is not retarded by the tenseness of his mind and nerves.

The Beth Israel Hospital of New York is a long established institution. A poor Jew, afflicted by illness, soon learns of its existence, and applies to it for aid and relief. Truly, it is the house of the Children of Israel, for here the orthodox Jew, who has escaped from a land of persecution, finds, during sickness, a home where his religious beliefs are honored and where the laws of Moses are followed according to ancient tradition.

More than a quarter of a century ago it became evident that it was essential to establish an orthodox Jewish hospital, if the afflicted pious immigrants were to receive due and proper attention. To the true Jew, the one uninfluenced by the reforms and evolution of religion, death itself is preferable to a life in surroundings which are obnoxious to the law of God. He will suffer in silence and refuse to leave his home, where all the rituals of his religion are implicitly followed, rather than go to a home or hospital where his soul may be tainted by eating of the forbidden flesh or partaking of foods not prepared according to the regulations of the rabbis. The need became so crying that a few charitably inclined gentlemen called a meeting on December 1, 1889, to discuss the project of establishing a Jewish hospital.

At first an out-patient clinic was founded, and then, after duly incorporating the Beth Israel Hospital Association in May, 1890, a hospital was built, whose aim and purpose was to accomplish for the poor orthodox Jews what other creeds have accomplished for their co-religionists.

The Spirit of Beth Israel's Mission

If I may, without being considered immodest, cite a few instances of the spirit of our mission, perhaps my point will be clearer. Not long ago it came to our attention that immigrant sick are refused medical treatment by certain other hospital institutions because the municipality did not think it proper to pay a certain daily amount for them to these hospitals. We made the point clear to the social service department that such was not our principle or practice; that whether or not the city paid for the care of these poor sick is a matter of minor importance; that these people were sick; that they were immigrants and that there was danger of their being excluded from this country because, unfortunately, they were temporarily incapacitated, were points sufficient for us to take these individuals into our institution with no care for the financial considerations, and to minister to them until they are well.

It has been the fixed policy of our directorate not to instil a spirit of subserviency and toadyism

in the administrative force. For the proper development of an institution it is a *sine qua non* that the initiative of the executive be encouraged and cherished. The administrator must not react to the whims and fancies of the trustees. He must be certain and studied of his ground and must resist with all his powers any step taken by members of the board that he may consider unwise and not to the best interests of the institution. He must permit of no favoritism in the placing of contracts, no nepotism in the making of appointments. In this regard the Beth Israel Hospital authorities have ever strengthened the arm and the hand of their executor.

We are not a commercial institution. Our rooms and our wards are not for the highest bidder. The sick and he who is more sick has the privilege and the preference for the occupancy of the beds. We admit all the sick, poor or rich, and we allow the financial arrangements to take care of themselves, depending upon the financial status of the patient or his family.

Some years ago, it became apparent that a number of poor seeking their fortune on the shores of America were refused haven here because they were infested with an affliction of the eye, trachoma, and other infectious diseases. We proposed to the authorities at Washington that these aliens be entrusted to our care and that we would assign a certain space to them where they could be cured. In this way, families that otherwise would have become separated or would have been compelled to return to their native land, were kept united, were healed of their illnesses and made very much happier.

Hospital's Quarters to Be Moved

We are now planning to move our quarters and widen our activities. The times have changed. What seemed adequate and modern and sufficient a quarter of a century ago is now hopelessly out of date. What was bright and new is now old and decrepit, and while repairs have been made, so far as possible, our old building is groaning under the increased demands upon its space and its functions, and it was decided to build anew, strongly and stately, and with foundations firm and true and faith-fast.

I trust that the spirit of Beth Israel will always remain the same; the spirit of serving those that are maimed with disease and the spirit of consoling those who are deprived of the comforts of home and are constantly in anxiety as to the fate and condition of the loved ones at home. Long ago we recognized the fact that the patient that leaves the hospital is not discharged from its care until fully cured and restored to a state of complete working efficiency, or is referred to an

institution for permanent care, if he is found chronically ill. They leave the hospital when they no longer need the bed, but many still need treatment and are referred to the corresponding department in the dispensary, to be seen from time to time by the physician in whose care they were while in the hospital.

We were pioneers in America in establishing the social welfare department. We became convinced many years ago—to be exact, in 1903—that it was essential to investigate the home conditions of the poor sick and to help them if possible. Take an individual who is suffering from heart disease. In the happy-go-lucky days of old it was customary repeatedly to admit and discharge an individual, depending upon the state of compensation and decompensation of his heart. Why this breakdown of his health, few bothered to investigate. We all know that his final admission was his final exitus. By the system of home inspection and home help that we have inaugurated, the cause for these repeated admissions, if found, are, if possible, remedied.

"Wisdom," said Solomon, "crieth aloud in the street," but there are not many that heed it. It seems to me that much more can be accomplished by the hospital in which a spirit of kindness is inculcated and in which the ultimate aim is the benefit and comfort of the sick. The counsel of the wisest of all kings should be followed by all who are charitably inclined.

"Withhold not good from him to whom it is due,
When it is in the power of thy hand to do,
Say not unto thy neighbor, go and come again,
And tomorrow I will give,
When thou hast it by thee now."

The instruction given out by the Department of Home Assistance of France is the motto by which all those engaged in social welfare work should be guided:

"Visitors are urged to be 'gentle,' nor ever lose their patience when they meet with an ungracious reception, as often happens. They will avoid all manner of discussion, and will ever bear in mind that privations irritate and render unreasonable, and the poor to whose service we consecrate ourselves have a claim to our indulgence and regard, even when they misinterpret our sentiments and intentions."

Polonius asked Hamlet, "What do you read, my lord?" and the prince answered, "Words, words, words." Now, it is not my intention to write these words without indicating the steps taken to interpret our ideals into actual practice.

We found soon after occupancy of the present institution that the building was too small, and an appeal for a new building fund was made on May 24, 1906. In fact, the first day I visited the

hospital in 1906, in connection with my duties as superintendent, I saw an automobile standing outside the building waiting to take a committee to inspect new sites for the new hospital. A great deal of time was spent trying to find the proper site. The question of a river front was given considerable consideration and many trips were made by the building committee. We finally secured the present site, which is considered by all as being the best location from every viewpoint.

We bought an interior plot 95½ feet front and 120 feet deep. This property was too small for our purposes and we began negotiations for the corner property. A quarter of a million dollars was asked for this property, which we refused to give. We finally purchased a seven-story apartment house on the adjacent corner. When we began to plan we found that we must get the other street angle as well. Finally we got the property for \$68,000 instead of a quarter of a million. The building committee was ready to go ahead with the plans, calculating to leave the corner apartment house stand, but altering it into a nurses' building. We found this could not be done and carry out the ideas of the directors for the building of a modern institution, and so the directors, at a regular meeting, unanimously resolved that all the buildings be demolished and that the hospital consist of one homogeneous structure carrying out to the fullest detail the ideas that I presented.

Plans Built Up Detail By Detail

The plan of the new hospital was built up methodically, detail by detail. We did not make a plan and then squeeze the conveniences, the details, into it. We worked room by room, function by function, correlation and interrelation of departments, until we had the whole plan ready. We consulted the workers before the architects. The experts in the various departments—and different experts in the same branches—gave us plan and scope and arrangement from which we built up the whole structural plot. We took what was good in all the ideas submitted to us and rejected what was uncouth, impractical or antique.

The new hospital is to be constructed according to the best method of building, to provide the patients with as much comfort as possible, to serve them with palatable food, to provide them with plenty of fresh air and sunshine, to guard them from noise and excitement, to keep them from the smells and workings of the hospitals, and last but not least, the hospital will be so constructed that it will be able to receive patients in accordance with the diseases they are afflicted with and not limit them to the diseases they should have selected. In other words, if a medical

bed is vacant and the patient happens to be afflicted with a surgical condition, he will not be told that he selected the wrong disease. In the new hospital there will be no such thing as surgical or medical specialty beds. We will treat all conditions by all the men connected with the institution, according to the group method of treatment.

In planning for the new hospital, we thought it advisable to visit those institutions whose success is world-wide in renown and to learn from them what obstacles and what failures they have met with, so in planning and building our hospital and the various departments we shall not fall into the same mistakes.

In the Spring of 1917, Mr. I. L. Phillips, chairman of the building committee, the architect, the builder, and I took a trip West, inspecting newly constructed hospitals. We went to Cleveland, Detroit, Chicago, St. Louis, Pittsburgh, etc., at Mr. Phillips' expense.

And thus we sought information and planned our hospital with diligence and affection, endeavoring to give all that is good in us to the erection of that hospital which shall be called the House of Israel.

*"Build thee more stately mansions, O my soul,
As the swift seasons roll!
Leave thy low-vaulted past!
Let each new temple, nobler than the last,
Shut thee from heaven with a dome more vast,
Till thou at length art free,
Leaving thine outgrown shell by life's unrest-
ing sea."*

GOVERNMENT OFFERS HOSPITALS EQUIPMENT AND SUPPLIES

Early in July the American Hospital Association issued its fourteenth bulletin to institutional membership, calling attention to a sale of government hospital equipment and supplies. The list of equipment and supplies covered, among other things, bandages, bed pans, sterilizers, and operating tables. The conditions of sale are favorable and distinct preference is given to orders from individual hospitals. The bulletin calls attention to the fact that, from the many purchases of surplus property made following information and advice sent from the offices of the American Hospital Association, not a single dissatisfied purchaser has been heard from. On the other hand, there have been many expressions of satisfaction as to the quality, condition, and value of the goods received. Non-institutional members who may desire information regarding this sale should communicate with Dr. A. R. Warner, executive secretary, American Hospital Association, 22 East Ontario Street, Chicago, Ill.

Ain't It the Truth?

Teacher—"What does this sentence mean: 'Man proposes, but heaven disposes'?"

Tommy—"It means that man might ask a woman to marry him, but only heaven knows whether she will or not."

THE SOCIAL MANAGEMENT OF THE HOSPITAL

ANYONE who is familiar with hospital routine would readily define the business management of the hospital as that branch of the hospital administration which embraces accounting, cost accounting, rate-making, office management, purchasing, stock keeping, the fixing of wages, the management of employees, and the preparation of the budget. Not yet, however, has there been developed a clear conception of the scope and significance of the social management of the hospital.

The term "social management" at first suggests social service, but hospital social service has to do with the social aspects of diagnosis and treatment, and its logical classification is under the head of medical service, of which it is a specialized form. Another possible connotation of the term social management is what is coming to be known as the "community relations of the hospital," a term which is most frequently used to cover the study of community needs and the adjustment of the hospital program to meet those needs, whether through individual hospital effort, cooperative hospital organization, wider cooperation between hospitals and other social agencies, or finally, a complete community system of medical care. These are aspects of hospital management that fortunately are now receiving a great

deal of attention; confusion will perhaps be avoided if we continue, in our discussion of them, to use the term community relations, and make other use of the term social management.

In calling attention to the social management of the hospital, I have in mind the attitude of the hospital toward, and its method of dealing with, certain problems of a non-medical character, affecting larger or smaller groups of individuals. The principal groups affected are patients, the families and friends of patients, and the public at large. If we include under social management such varied problems as: the service due to applicants for treatment to whom admission is denied; the accommodation of guests who are not patients; the disposition of complaints; the proportionate allotment of beds to free, part-paying, and paying patients; the determination of dispensary fees, their graduation and remission; the regulation of professional fees in wards and private rooms; the restoration of the mental and physical vigor and occupational efficiency of convalescents through the provision of day rooms, patients' libraries, or occupational re-education; educational publicity, or the means by which the hospital informs the public of the scope and value of its activities, thus influencing each section of the public to contribute hospital support in proportion to its means,—if we include all of these varied activities under a single head, the reader may ask just what quality or characteristic they have in common. The answer is that each topic has a definite social significance and that the hospital's attitude toward all of them should be determined by the single principle of social justice. Conventional hospital organization provides for medical administration, nursing administration, business administration, domestic management, et cetera, but has not hitherto given to social management the distinctive place to which it is entitled.

In the hospital practice of the day the subjects which call for social management are treated as odds and ends which do not require systematic attention. The hospital which seriously endeavors to do justice to its rejected applicants is exceptional. Exceptional, too, is the hospital which bases its dispensary fees upon a thorough investigation of the resources and requirements of its dispensary clientele. In place of an honest attempt to do justice to the dispensary patient, the average hospital adopts in its out-patient department the fee schedule that is traditional in the community, modifying this, perhaps, to meet pressing financial needs, but doing so without much regard to the fundamental merits of the case. Throughout the list, the same tendency to the neglect or haphazard adjustment of important

issues prevails. Such a notable community effort as the current Cleveland survey of medical needs and resources is but the exception that proves the rule.

If I were asked how to remedy the present situation, I could only make the conventional recommendation that a committee be appointed. The hospital which realizes that the questions enumerated have a common ethical background, which is the first to name a standing committee to deal with them vigorously, ethically and continuously, will presently emerge from the indistinguishable crowd, and will win for itself a name for exceptional achievement in the sphere of social justice.

S. S. GOLDWATER, M.D.

FAR FLUNG MONTREAL

YOU have never been to Montreal? Then, as a delegate to the October meeting of the American Hospital Association, you have a rare treat in store. Montreal itself, quite apart from the historic and scenic region of which it forms the center, is a beautiful city, unique in character and individuality. Its harbor front is solid and imposing, suggesting, during the shipping season, world trade. The downtown commercial quarters contain buildings, many of which would do credit to the largest cities of the continent and instill a feeling of respect for Montreal as the business metropolis of the Dominion of Canada. Along the middle levels from which both the river and mountains can be seen, are miles of streets in which the beauties of country and town are finely blended—handsome homes, spacious lawns and stately trees. But its superlative beauty is to be found along the upper levels from which a view can be obtained that perhaps is unrivaled on the continent, a view that widens as one ascends, until from Mount Royal—an extinct and tree-clad volcano that gives the city its name—one surveys a great metropolis, the sweep of a majestic river, miles of smiling farm land, and far beyond in almost every direction, mountain ranges and ragged skyline.

You have never been to Montreal? Then why not combine business and pleasure, attend the meetings of the American Hospital Association from October 4th to 10th and spend a week either before or after the conference in and around Montreal?

POPULAR EDUCATION—THE REMEDY FOR SHORTAGE OF NURSES

AT THE recent sixth annual convention in St. Paul, the Catholic Hospital Association adopted a number of resolutions. The most significant, perhaps, was that expressing the desire to

contribute a program and policy of nursing education which, in the first place, will provide nurses sufficiently trained to carry on satisfactorily the needed bedside nursing in hospitals and homes, and, in the second place, will provide a better and more extensive training than is now obtainable for educative, social, and public health nursing, and calling for the appointment of a committee to make a survey of the field of nursing and report at the next annual meeting of the Association a revision of the training school program, which will insure both a sufficient number of pupil nurses for adequate bedside nursing in all hospitals, and a sufficient number of adequately trained graduate nurses to meet both the public demand for home care of the sick and the varied modern demands of the general educative, social, and health programs. In its preamble the resolution states that there is a shortage of nurses; that this shortage is creating a condition which is becoming more and more serious; that the shortage afflicts not only hospitals, but works a great hardship on the general public by making it almost impossible to give proper home care to the sick, and that in the opinion of the Association the fundamental cause of this condition is the recent extension of nursing in lines of activity not known or considered when the present policies of nursing education were formulated, this extension being along two general lines, (1) the increased demand from people in moderate circumstances for nursing service in the home, and (2) the active demand for carefully trained nurses to carry on many forms of educative, social, and general health work.

The survey contemplated by this resolution will undoubtedly result in a clearer conception of the field of nursing and the various means that may be properly adopted to meet the increased demand for nurses, not only for the needs of the hospitals, but for the wider needs of the public health field. In the meantime, however, we cannot refrain from calling attention to a remedy suggested by Mr. Homer Folks in his address as presiding officer at the dinner given at the Hotel Biltmore in New York City on May 12 to commemorate the one hundredth anniversary of the birth of Miss Florence Nightingale. "A good many remedies," said Mr. Folks, "are suggested, some of them harmful, such as the lowering of the standards for admission or graduation; some useful, such as making the training school more truly educational, cutting down inhumanely long hours of work, cutting out the drudgery, and omitting the duties that do not require the special training of a nurse. These are all important, but out of all these, to my mind, there emerges one supreme

remedy and only one—popular education as to what trained nursing may be made to mean to the American people, and the great career of useful public service which it offers, (1) in the care of the sick, and (2) in the prevention of disease."

SELLING THE HOSPITAL TO THE COMMUNITY

AS THE financing of the hospital is primarily the responsibility of its board of trustees, we earnestly urge every trustee, however busy he may be, to take sufficient time to read and ponder well Mr. G. W. Olson's article on financing the hospital, which appears on page 84 of this issue. He will find it at once informative and stimulating. Hospital superintendents will do well to place this article in the hands of every member of their boards of trustees.

As Dr. Olson points out, the financial problem connected with the current operation of our hospitals is not difficult, in view of the present-day ability of most people to pay for what they receive. The difficult problem is how to secure funds for new construction, and we believe Dr. Olson has hit upon its basic solution. He points out that while all classes of citizens, even men of wealth, are averse to assuming voluntary obligations to charity or public enterprise, they do pay their recognized obligations. Consequently, hospitals must "educate the public to accept the needs of the hospital as their solemn obligation. If we can put that across, we will get the money, for people do pay their obligations when once they have been convinced that they owe them.

"The direct appeal to the whole people of a community, preceded and accompanied by a broad democratic but deeply earnest selling campaign, appears to be the only method by which the money needed by our hospitals can be secured. This is work for the best brains, hearts, and hands in any community where hospitals are inadequate for existing needs."

AMBULATORY TREATMENT OF DRUG ADDICTS CONDEMNED

THERE comes to our attention from two authoritative sources unqualified condemnation of the so-called ambulatory treatment of drug addicts, whether by the public narcotic clinic or by trafficking physicians or dispensing druggists, and forcible recommendations that all hospital patients should be given suitable hospital care, treatment, and after-care.

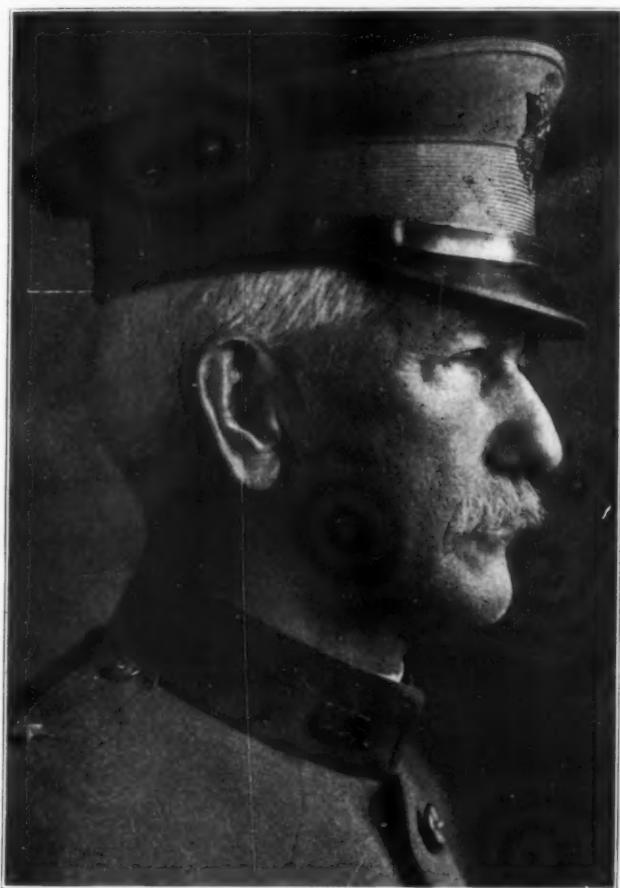
One of these declarations is found in a report of the New York City Narcotic Clinic, prepared

by Dr. S. Dana Hubbard, acting director, Bureau of Public Health Education, and published in the February *Monthly Bulletin* of the Department of Health of the City of New York. The New York City narcotic clinic was opened in the spring of 1919 at the time the federal authorities were making raids on trafficking physicians and druggists, and it was feared that an acute emergency might arise, resulting in a panic among these unfortunates. The clinic was started for the purpose of relieving the sufferings of these addicts, and continued for a time after the emergency, in order to study the subject and obtain more data regarding the problem. An unusually wide and general experience with drug addicts of all classes was obtained and from this experience the Department of Health of the City of New York came to the conclusion that clinics of this type are not desirable and do not satisfactorily solve the problem,—in fact the clinic has been found to possess "all the objectionable features characteristic of the so-called 'ambulatory' treatment as practiced by trafficking physicians, except one, the financial profit to a few physicians performing this character of service." In its conclusions the Department of Health of New York City has this, among other things, to say regarding the treatment of addicts: "Treatment of the narcotic addict by private physicians prescribing and druggists dispensing while the individual is going about, is wrong. The giving of a narcotic drug into the possession of an addict for self-administration should be forbidden. Until this is done by law, all honorable physicians should aid in stopping this vicious practice. The case of drug addiction that can be cured by ambulatory treatment is the rare exception and so unusual as to make one think it impossible.

"Physicians generally are of the opinion that ambulatory treatment is not good practice and few doctors use this form of treating addicts, so it is believed that those so doing must be either ignorant of proper methods or do so in bad faith."

From the report of the American Medical Association's committee on the narcotic drug situation in the United States, submitted at its recent New Orleans meeting, we learn that the chairman of the committee held many conferences during the past year in New York, Washington, Philadelphia and Atlanta, in order to assist in answering the questions under consideration by the committee, particularly with reference to the treatment of addicts, with this result: there was established an unanimity among those who took part in the conference as to the evil effects of the ambulatory treatment, the giving of a narcotic drug into the possession of an addict for self-adminis-

tration, with no control over the number of physicians furnishing the supply. This method of treatment has proved a failure and there was agreement that it should be forbidden. The committee reports "that the ambulatory treatment of drug addiction, so far as it relates to the prescribing and dispensing of narcotic drugs to addicts for self-administration at their convenience, be emphatically condemned." Following the recommendations of this committee, the American Medical Association went on record at its New Orleans meeting as definitely opposed to the ambulatory treatment of drug addicts.



Major General William Crawford Gorgas

IN the death of Major General William C. Gorgas, former Surgeon General of the United States Army, the world lost one of its greatest sanitarians. Born at Mobile, Ala., in 1854, General Gorgas took his college course at the University of the South, Sewanee, Tenn. Upon graduating from Bellevue Hospital Medical College in 1879, he secured a commission in the Medical Corps, United States Army, as first lieutenant, and was sent to Fort Brown, Texas, where he contracted yellow fever, thereby acquiring an immunity which stood him in good stead in his fight against this disease.

During the Spanish-American war, when he was serving as health officer of Havana, he applied Finlay's theory regarding the transmission of yellow fever by mosquitoes in the well known sanitary campaign which drove this dreaded disease from the Cuban capital.

In 1905 General Gorgas was assigned to the task of making the Isthmus of Panama sanitary, in order that the work on the canal might be finished. In 1913 he went to South Africa at the request of the British Government, to investigate conditions in the Rand mines, and established measures which practically eliminated the epidemics of pneumonia which were disseminating the ranks of the native workers.

In 1914 he was appointed Surgeon General of the United States Army and head of the Medical Department, and a year later became director of the International Health Board of the Rockefeller Foundation. His last campaign was against yellow fever in Guayaquil, Ecuador, and at the time of his death he was en route to the west coast of Africa to study the sanitary conditions of that region.

HEALTH CONDITIONS IN THE PANAMA CANAL ZONE

The Panama Canal zone, formerly one of the most unhealthy sections of the world, has as a result of the U. S. Army administration become one of the healthiest of the tropical countries. In the annual report concerning health conditions in the zone, Lieutenant Commander Arthur T. McCormack, M. R. C., U. S. A., chief health officer of the Panama Canal, states: "The Health Department of the Panama Canal is a model of its kind, entirely devoid of politics. One hundred per cent of the time of all its employees is given to health work. As a result, the Canal zone is probably the healthiest section of the world today. In the cities of Panama and Colon violations of the sanitary regulations are punished by a fine or imprisonment by the health officer. The certainty of punishment makes resort to this power rarely necessary." Flies have been banished from the Canal zone, and are non-existent in the city of Panama, through the sanitation and the daily removal of manure and garbage. The slightest relaxation in the rigid anti-mosquito work leads to rapid increase in malaria cases.

Among the diseases which are being fought in this section are pneumonia; tuberculosis, occasioned by over-crowding in the cities; diseases of the eye; influenza; and venereal diseases. With the advent of the American occupation, statistics show a fairly constant admission rate of venereal diseases in hospitals and quarters. Since 1904 American physicians have treated 27,633 cases, and on account of the alarming increase in these diseases, a quarantine was ordered against the cities of Panama and Colon. The admission rate to hospitals and death rate from disease for white employees was 237.98 and 3.63 as compared with 115.43 and 7.86 for black employees. During 1918 there were 256 deaths, of which 216 were from disease, giving a rate of 6.69 as compared with 9.91 for 1917. Seven hundred twenty-five births are recorded, of which 255 were white, and 470 black.

THE FUTURE OF NURSING SERVICE AND NURSING EDUCATION*

By CHRISTOPHER G. PARNALL, M.D., Ann Arbor, Mich.

Without assuming the rôle of a prophet, I will hazard at the outset that the future of nursing service and the ideals of nursing education will be greatly changed from what they are at the present time. There are those, I know, who feel that perhaps we have already gone too far in the preparation required of a nurse and that the standards we have set are accountable for the shortage which now exists in the ranks of the nursing profession. Contrary to this somewhat widely held opinion, it is my belief that revision of our standards of nursing and our curricula must be upward rather than downward. High requirements are not of themselves the cause of the shortage of nurses.

Our conflicting views regarding the remedies to be applied to a solution of the problems in nursing are, after all, incidental to the world wide condition of unrest. We, as hospital executives, are most keenly conscious of this particular phase of the world's difficulties, and in our desire to improve the situation we should not be led by mere promises of relief into actions which will make our position infinitely worse. The conditions in other lines of endeavor are quite as chaotic as in the field of nursing. The shortage of nurses is not a circumstance compared with the dearth of domestic help, or the lack of farm labor, so that if we are faced with the problem of providing nursing care for the sick, we should be equally concerned with the difficulties soon to be encountered in securing food, not only for the sick but for the well. All of these annoying problems, however, must some time be settled. A settlement does not necessarily mean, however, a return to former conditions. The very agony that we are enduring should enliven our hope that a better state is in store. We must make what we have endured the way to a better understanding of living and of life. With all of the present chaos there is a constantly increasing tendency on the part of most people to consider the welfare of others. Service to mankind, more now than ever before, is the measure of an individual's success. Organizations built entirely on the motive of unselfish service to others have grown remarkably in the last few years. People are not reluctant to try out new ideas, and a general inventory of the state of the world today will show that we have made enormous progress.

Well Educated Nurses Give Best Service

Nursing has attained within the last twenty years the dignity of a profession. While it is often said by those who are concerned chiefly with their own particular difficulties, that what is needed is more of the good old fashioned type of nursing, the real fact is that they would be loudest in their lamentations if we should go back to the old order. When nursing care is necessary, the most highly educated and adequately trained nurse is the one who will give the greatest service. Nursing has only emerged from its period of medieval darkness. The barber is only a little further removed from the surgeon than the Sairey Gamp is from the modern trained nurse, and still we have in medicine many members of the profession who fail quite as signally as some of our so-called nurses in living up to the ideals of their profession. If a comparatively few nurses have become mercenary, it is not that this attitude is peculiar to the profession. If one were to inquire into the professional success of the

average doctor, he would find it very largely measured by the amount of "business" done. I am not trying to justify the shortcomings of the nursing profession; I would simply offer the suggestion that all of us are human, and conclusions arrived at on the basis of the conduct of even a large number of individuals in any walk of life should not prejudice us against the group as a whole.

Transition Period in Medicine and Nursing

Is it not probable that both medicine and nursing are entering a new era and that this, however uncomfortable it may be, is only a transition period? In his presidential address to the Michigan State Medical Society last month, Dr. Charles H. Baker stated that there were eighty communities in Massachusetts now without the services of a physician, although all of these communities had had one or more physicians practicing in each in the past. Fewer doctors are being graduated each year and, on the basis of past conditions, there is a great shortage of doctors even at the present time. However, we cannot accept conditions of the past as our standards for the future. Medical practice is changing in character, and nursing is undergoing a similar transition. High grade medical service, including diagnosis and treatment by specialists, is often beyond the pecuniary resources of the average individual, especially when he has had the misfortune to have his earning power curtailed or destroyed by any long period of illness or of sickness in his family; so that it is quite as true that medical service is unavailable to those who are unable to pay large fees as it is that nursing care is not within their means.

Among the remedies proposed for the problem of supplying better medical service are health insurance and state medicine, or their modifications. I shall not enter into a discussion of this problem farther than to give my conclusions, gained from a somewhat extensive study, that neither health insurance, as advocated, nor universal state medicine will supply the present-day need. At the same time, the people have it within their power to secure adequate medical attention through community action, which, in effect, is a method of insuring the health of every member of the community. As the private practice of medicine will to an extent become supplanted by group practice in numerous community health centers, so private duty nursing must inevitably give way to a plan of practice which will permit one nurse to care for a large number of patients. The visiting nurse, attached to the health center, under the direction of the medical group, will enter what has formerly been considered a field held solely by the doctor. It is altogether probable that the practice of medicine and the nursing of the future will center in the hospital. Preventive medicine will flourish and will appeal more and more to the professions of medicine and nursing and to the public, as the logical direction in which progress in the saving of life must develop. As Dean Vaughan has said, "Preventive medicine and curative medicine cannot be separated." Both embrace a field of such magnitude that no one individual can acquire sufficient knowledge to be a master in all of the specialties. There will continue to be a rapid growth in the number of hospitals, as the public gains knowledge of the means of preserving health and preventing disease. The hospital must then, if it fulfills its mission, be in a position to guarantee to the patient who comes to it for advice and treatment the very best that medicine and nursing can give. This means increasingly high standards for both of the professions primarily established to promote the art of healing.

To meet the requirements for nursing service in the

*Paper read at the meeting of the Michigan Hospital Association, Detroit, Mich., June 8-9, 1920.

future, nursing education must undergo a considerable transformation. It is only within recent years that training schools have become anything more than convenient excuses for the enrollment of young women for exploitation in the service of hospitals. Training schools have been established by hospitals merely as a means of securing nursing service at low cost. The obligation of the hospitals to give something in return has been altogether too lightly regarded. It is little to be wondered at that young women developed for their life work, with such ideals actuating the institutions in which they receive their training, are occasionally not appreciative of their high obligations to society. It is in fact remarkable that the nursing profession has shown as high an order of altruism as it has. With training schools now awakening to the needs of the hour and recognizing their duty, the outlook is most encouraging for a higher standard of ethical perfection.

The education of nurses may be divided into three parts: first, preliminary education; second, pre-nursing education; and third, special instruction and practical training. The amount of instruction required in each of these divisions will vary with the type of nursing service which will be required of the individual nurse.

In a general way, we may conclude that there is at least a tendency for the development of two classes of nurses, just as there are two classes of physicians. As we have practitioners of medicine on the one hand, and specialists and teachers on the other, so in nursing, we shall have a class more particularly rendering the usual bedside service heretofore expected of the nurse, and a second group taking up special lines, including nursing education. For the first class, a preliminary education of the equivalent of a high school education obviously is all that is necessary before beginning the nurses' training. However, before a young woman enters the training school for practical instruction, she should be given a considerable period of theoretical education. In this way her class work will not interfere with her practical duties and she will more quickly gain a theoretical knowledge of the subjects required in her education. This preliminary term for this type of nurse should not be less than an ordinary school term of four and one-half months. After this period a young woman is prepared more intelligently to take up her special training in practical subjects, both in the class room and in the wards. After two years of such training, preceded by a proper preliminary nursing education as above indicated, the nurse should be qualified to take up her life work. For the class of nurses fitting themselves for more highly specialized work, college preparation is highly desirable. Three years in college, spent in the study of selected subjects, preceding a practical training in the hospital of two additional years, should give a nurse a well grounded education which would qualify her to meet the demands of her profession. The college preparation should not be too strictly limited to the purely scientific subjects, but should offer a liberal admixture of subjects which are ordinarily classified as cultural. The object of the special preparation, after all, is chiefly to equip the student to meet people intelligently and to appreciate their problems. Without such training a nurse will be seriously handicapped if she wishes to enter such special fields as public health, social service, nursing education, and so forth. That there may be a place for another class, capable of rendering what might be termed the mechanical part of nursing service, is probable. However, this particular field, in my opinion, will be very limited. Here it is conceivable that we are more directly concerned with the

training of a better class of domestics who can render, under the direction of trained nurses, such services as are necessary in the care of people who are not seriously ill, or who can come into homes and take the place of the homekeepers who may be ill, and who are being cared for in the proper place, which is the hospital.

Possibly I am somewhat visionary when it comes to a conception of what the nurse of the future will be, but I feel that unless we adopt a more generally forward looking view than exists at the present in the minds of many hospital executives, members of the medical profession, and even nurses themselves, that the shortage of nurses will become more, rather than less of a problem, and that the public will suffer from our failure to perceive the real fundamental facts.

SIR HENRY BURDETT

By HENRY M. HURD, M.D.

The death of Sir Henry Burdett of London, founder and editor of "Burdett's Hospital and Charities, The Year Book of Philanthropy and Hospital Annual," and also of "The Hospital" and the "Nursing Mirror and Midwives Journal," all of London, removes a man who had been prominent in hospital and nursing work in England and America.

Born in Leicestershire, England, in 1847, the son of a clergyman of the Church of England, he was educated in the public schools, but owing to the death of his father was unable to realize his desire to enter Emmanuel College at Cambridge to gain a liberal education, and at the age of sixteen was sent to Birmingham to learn banking. While at Birmingham he became interested in hospitals, and in 1868, at the age of twenty-one, was appointed secretary and superintendent of Queens Hospital, a position which he held until 1874, when he resigned to become the house governor of the "Dreadnought Seamen's Hospital" at Greenwich, a position which he held for seven years. During this period he was a medical student at Guy's Hospital and devoted much attention to medical affairs. In 1881 he left Greenwich to become secretary to the Share and Loan Department of the Stock Exchange in London, a position which he held until 1898 and in which he developed a marked talent for grasping the details of large and complicated financial affairs. About this time he began the compilation of an annual publication known as "Burdett's Official Intelligence of British, American and Foreign Securities," which ran through a long period of years. He also began his monumental work in four volumes entitled the "Hospitals and Asylums of the World," which occupied his time for several years. During this time he became the joint editor with Prof. de Chaumont of the first three volumes of the "Proceedings of the Sanitary Institute of Great Britain," and contributed valuable papers on the "Administration and Hygiene of British Hospitals," the "Dwellings of the Middle Classes," "The Dwellings of the Poor in Large Towns."

In the year 1868 he founded "The Hospital," a paper which he edited until his death and which gave full scope to his varied energies. In 1907 he established an offshoot of "The Hospital," which had formerly been a supplement merely, under the title of the "Nursing Mirror," and this claimed much of his time and attention. In 1889 he began to issue also "Burdett's Hospitals and Charities and Year Book of Philanthropy," which has appeared regularly ever since. In this work he not only gave statistics regarding the hospitals of the world but also prefixed to his elaborate statistical tables interesting and illuminating articles on various phases of hospital work,

especially the work in Great Britain. Among these essays were articles on the "Hospital Saturday and Sunday," the "League of Mercy," the "Prince of Wales Fund," afterwards the "King Edward VII Fund for the Relief of Voluntary Hospitals," and many others of similar interest. In the same connection he published a book outlining "A Uniform System of Accounts," which became generally adopted in Great Britain and in the Colonies. The book proved to be of great service in compelling a uniform system of accounts in all institutions which received donations from the "Prince of Wales," or from "King Edward VII Fund" for the relief of hospitals.

Instrumental in founding the "Home Hospitals Association," which paved the way for the first pay hospitals in London, Sir Henry was also the promoter of pay wards in many other hospitals. He founded the Association of Hospital Manager and Officials and assisted in organizing a nurses' cooperative pension movement.

Another project to which he contributed was the formation of the Metropolitan Ambulance Association, which had for its object the provision of an ambulance service in London for prompt assistance to all persons suffering from accidents or sudden illness.

The "Hospital Sunday Fund," which was originally started in 1873 in Birmingham, was one of his especial interests, and through the Hospital Sunday Fund supplement of the "Hospital" he raised in 1896 not less than \$100,000 for the Fund. The Royal National Pension Fund for Nurses was founded, due to his initiative, because he saw that many nurses who had spent their days in nursing service were often left in their old age without means, and became objects of charity. The nucleus of the fund was \$100,000 which had been obtained by his efforts, and so great was his success that within ten years 5,000 nurses had joined the Fund and pensions were secured from investments amounting to over \$10,000,000.

In recognition of his great public service, he was created a K.C.B. by Queen Victoria in 1897, and because of his philanthropic labors was made a K.C.V.O. in 1908.

Sir Henry Burdett displayed wide and varied activities in constructive philanthropy and rare ability to coordinate the energies of others and to secure the assistance of all classes of people in support of his work. He had a talent for friendship, and was well known and appreciated at home in England and Scotland, on the Continent, and in the United States and Canada. He traveled extensively and made friends everywhere. His numerous publications and his technical work in philanthropic and financial matters made him an international authority, and his advice and counsel were greatly sought and generally followed. He will be greatly missed by his friends.

Strong and positive were his views as to the need of personal service on the part of all philanthropists, and he constantly urged the duty of such service. His benevolent enterprises were not pursued at the expense of his regular business undertakings—in fact, he became interested in many important business enterprises and was a useful and active factor in the business life of London. His warm-heartedness prompted his intense interest in all movements calculated to improve the condition of the poor, the sick, and the needy; this quality, together with his unusual ability, made him many warm friends in America as well as in Great Britain. Through his visits to Boston, New York, Philadelphia, Baltimore, and Washington he was well known in these cities, and was intimately associated with the late Dr. John S. Billings in Washington, and with Cowles, Rowe, and Howard of Boston, Fisher and Goldwater of New York, Weir Mitchell of Philadelphia, and with hospital managers generally.

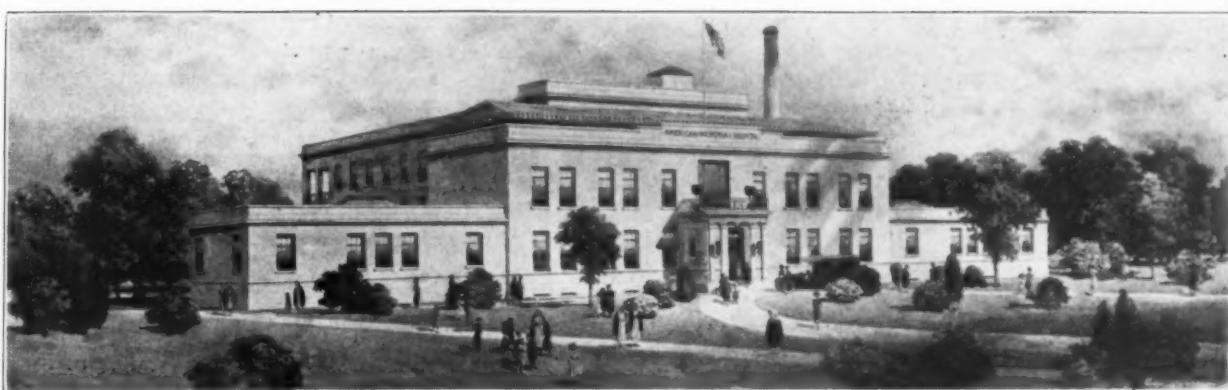
He attended two meetings of the American Hospital Association, one in Boston, and the other in Philadelphia, and had he not been prevented by the Great War, undoubtedly would have revisited America during the past two years. He was an intense worker and had a clear vision of the future in many departments of the hospital and nursing service. He was also sincerely and devoutly religious and pursued his work from convictions of responsibility and duty not only to his fellow-men but to his Maker. During the past year it was evident from accounts which were received that he was failing in health and had not been able to undertake his numerous occupations, but he was not regarded seriously ill until November last. From that time on he gradually failed in health, and finally passed away April 29 of this year. All who knew him feel his loss deeply, and fear that no one can fill the vacant place.

REPORTS, AND HOW TO WRITE THEM

The writing of "reports" is a very important part of a nurse's training. It occasionally happens that these reports have to be referred to sometimes months, or even years, after they have been compiled, and this fact should always be remembered by the nurse who writes them. The correct method of writing a report is taught to every nurse during her training, so that she cannot complain of lack of education in this respect, and she should reflect that if her reports are illiterate and badly expressed she will bring great discredit upon her teachers and her training-school. Reports on patients should be written morning and evening, by the night and by the day nurse respectively. There is usually a report book kept in each ward, and in it should be recorded the admissions and discharges of patients, as well as reference made to every patient whose condition necessitates any special care or treatment. Reports should be written neatly and intelligently and signed with the name of the nurse. Sometimes it is the rule in institutions for the medical officer in charge to affix his signature to the report thus showing that he has read and approved it. Unless the day and night nurses carefully read the report directly they come on duty they will not be able to carry on their duties intelligently and with proper co-operation. It is very important that the night nurse should, before the day nurses leave the ward, see that she has everything she needs to use, so that she may be able to follow out the instructions given her, and she must not hesitate to ask for an explanation of any order or method of treatment which she does not understand or with which she is not familiar. If these simple rules are observed mistakes cannot possibly be made by the conscientious nurse. Careless or indifferent reports are very serious, and the results may be so alarming that the giving of them is regarded by the hospital authorities as a very grave offence. There is no excuse for a nurse who does not obey the orders given her in a written report unless she has medical authority for not so doing. She has always her night sister to refer to on a difficult point, and should not herself accept the responsibility of disobeying an order.—*The Nursing Mirror*.

PUBLIC HEALTH INFORMATION

The New York County Chapter of the American Red Cross has opened a bureau of public health information on the tenth floor at 119 West Fortieth Street. It plans to serve as a clearing house of information for the eighty-three public health agencies in New York County. General information will be given on all phases of public health activities.



THE AMERICAN MEMORIAL HOSPITAL AT REIMS

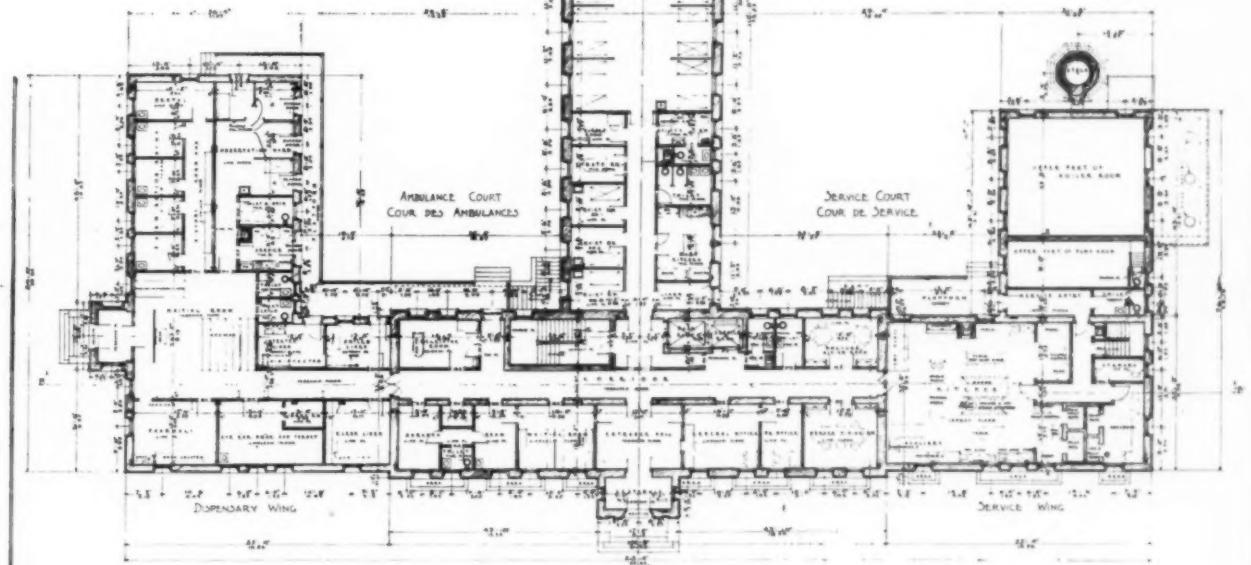
The American Memorial Hospital is to be erected at Reims by the American Fund for French Wounded, as a fitting completion to the relief work carried on through four years in France, and as a memorial to Americans who have fought and died in the Great War. In addition to the erection of the hospital, an endowment fund amounting to \$600,000 has been raised to cover the cost of maintenance so that the gift to the city of Reims shall be free and clear.

When the project was first considered, it was planned to make a combined Women and Children's Hospital, but it was soon apparent that the entire unit might be utilized for the care of the diseases of children, and the medical authorities of the city have agreed that, while the hospital is to be part of the medical center of Reims, it will preserve its identity as a complete unit devoted to the care of children.

Although at the signing of the armistice, but seventeen houses remained intact of the 12,000 which constituted the city before the war, the population has already begun to

flow back, repairing where repairs were possible, and building temporary shacks amid the ruins, and the latest report tells of 55,000 inhabitants, so the need of a hospital requires no explanation.

The hospital is in the shape of the letter "T" in plan, with the administration section, dispensary, and kitchen stretching across the north front, and the wards extending toward the south. On either side of the entrance hall are the office and waiting room, with surgeon's office, examining room, and receiving room to the left. Beyond these is the dispensary wing with special entrance and with medical and surgical treatment rooms, and dental, eye, ear, nose and throat rooms. In this section is also the pharmacy, and a small observation ward for the admission of new cases. Between the dispensary and the hospital proper, are the disinfecting room and the main linen room. To the right are the dining rooms for doctors and nurses, and beyond them, the kitchen, while the boiler room runs south from the end of this wing.



AMERICAN MEMORIAL HOSPITAL
AT REIMS — FRANCE

FIRST FLOOR PLAN
REZ DE CHAUSSEE

BUTLER AND RODMAN
36 WEST 45th ST. NEW YORK U.S.A.
AUGUSTE PELLECHET
62 RUE BLANCHE, PARIS, FRANCE

ARCHITECTS ASSOCIATES

REVISIONS DATE SCALE 1:200 ECH. 1:200 DRAWING NO. 113 SHEET NO. 6 DATE 3-15-1920

In the basement, under the kitchen wing, are the dining rooms for the help and store rooms for supplies, with space for refrigerating plant, and at the other end, are the morgue and autopsy room, and the small mortuary chapel. The portions under the dispensary and the ward wings are unexcavated. No provision is made for a laundry, as a central steam laundry for all the hospitals of the city is already in operation.

The ward wing contains on each floor, linen closet, diet kitchen, toilet and sink rooms, bath rooms, nurses' office, three quiet rooms, and an open ward for twenty-two beds. At the extreme south end of the ward wing the sun parlor or airing balcony opens to the south, east and west, and on the same level with the ward, so that even bed patients may be wheeled out into the air and sunlight. The front portion of the building contains, on the second floor, the quarters for the nurses with a small apartment for the head nurse, general sitting room, baths, and toilets. The flat roof over the dispensary is used by the nurses for an open air roof garden. Over the nurses' quarters, on the third floor of the building, is placed the operating department, with the operating room in the center, flanked by sterilizing and etherizing rooms, and with nurses' work room, x-ray department, and a small laboratory. At one end of this wing are the quarters for interns. The ward wings are similar on all floors, while over the operating department, on a level with the upper ward floor, are the roof gardens, one for boys and one for girls, arranged to be covered with awnings in summer.

In the original scheme, the hospital contained three wards only, one for women, one for boys and one for girls; but in the revision of the plans, it has been possible to provide for the separation of medical and surgical services in four wards, while a story has been added also to the main building to care for the nurses, whose housing had not been included in the original scheme.

Owing to the great difficulty in construction in France at the present moment, it is planned to utilize salvage brick for the walls, with stucco finish, while the floor construction will be of reinforced concrete in order to avoid, wherever possible, the use of structural steel shapes; in general cement floors will be covered with linoleum. The building will have a passenger and freight elevator and will be fireproof throughout.

CHLORIN TESTS IN INFLUENZA

Tests in a series of 184 cases conducted at the University of Arkansas under the direction of Dr. Harrison Hale were reported at the recent meeting of the American Chemical Society in St. Louis as tending strongly to bear out the theory that chlorin gas is effectual as an influenza preventive. Eight hundred treatments were administered to 184 volunteers who remained for five minutes daily in a room containing a small amount of the gas. In only one of the series did influenza develop, but it was agreed that the tests were not carried out to such an extent as to furnish conclusive proof.

FIXED PRICES ON GOVERNMENT SURPLUS

Hospital executives will be interested in a recent announcement from the Director of Sales of Government Surplus materials. Many items recently advertised by the Surplus Property Division were not sold. In order to dispose of this balance, fixed prices have been given on many of the items which have not been sold.

The following list gives the quantity of the various materials, where located, and the fixed price.

Item	Spd. No.	Quantity	Commodity	Location	Fixed Price
401-D	16886	1	Acetylene, lighting & heating units	St. Louis, Mo.	\$80.00
402-D	16879	1,000	Bandages, rubber, Martin	Schenectady, N. Y.	.15
403-D	16433	5,000	Bandages, rubber, Martin	Washington, D. C.	.15
404-D	16946	4,500	Basins for sponges, etc., w. e.	Washington, D. C.	.55
405-D	16434	1,080	Boxes, fracture, folding	Washington, D. C.	.80
406-D	16955	4,247	Cases, operating, small	Washington, D. C.	50.00
407-D	16947	5,000	Corks, assorted	Washington, D. C.	.60
408-D	16948	10,239	Corks, No. 2	Washington, D. C.	.15
409-D	16881	247	Cushions, rubber, small	Atlanta, Ga.	.50
410-D	16882	150	Cushions, rubber, small	Chicago, Ill.	.50
411-D	16883	100	Cushions, rubber, small	Newport News, Va.	.50
412-D	1754	4,776,840	First-aid packets	Chicago, Ill.	.10
413-D	16954	105,864	First aid packets for shell wounds	Washington, D. C.	.10
414-D	16808	4,800	Forceps, haemostatic, (Kelly Hopkins) No. 118.	Washington, D. C.	.60
415-D	16956	31,304	Forceps, Haemostatic, (Halstead Army) str. 5½" Screw lock No. 117.	Washington, D. C.	.75
417-D	16810	8,550	Gloves, rubber	Washington, D. C.	1.75
418-D	16949	1,450	Head Mirrors, in case	Chicago, Ill.	.85
419-D	3367	2,948	Litters, with slings	San Francisco, Cal.	3.60
421-D	15237	404	Mortars and pestles wedgewood	St. Louis, Mo.	2.00
422-D	16957	3,400	Mortars and pestles wedgewood	St. Louis, Mo.	.20
424-D	16425	409,398	Pins, safety	Washington, D. C.	.04
428-D	15840	7,300	Syringes, rectal, hard rubber	Washington, D. C.	.75
429-D	16952	44,104	Tables, bedside, folding	Chicago, Ill.	.90
430-D	16907	1,834	Tables, operating, post	Washington, D. C.	12.50
431-D	15266	18,000	Trays, instrument, W. E.	Chicago, Ill.	.50
437-D	16436	3,816 lbs.	Agar-agar	Washington, D. C.	.75
438-D	16439	175	Bells, glass	Washington, D. C.	1.25
439-D	15846	820	Blowers, foot power	Washington, D. C.	5.00
440-D	15847	240	Bottles, Woullff	Washington, D. C.	.70
441-D	15848	587	Burettas	Washington, D. C.	.80
442-D	15851	4,195	Cylinders	Washington, D. C.	.30
443-D	15852	1,833	Cylinders	Washington, D. C.	.25
445-D	15854	592	Funnels, separatory, Squibb	Washington, D. C.	1.40
446-D	15857	971	Incubators, bacteriological	Washington, D. C.	5.00
447-D	15858	134	Jars, Coplin	Washington, D. C.	.10
451-D	15863	74,279	Pipettes	Washington, D. C.	.20
452-D	15865	4,094	Pipettes, volume	Washington, D. C.	.12
454-D	16427	130,000	Stoppers, rubber, (4-oz. vials)	Washington, D. C.	.50
457-D	15872	3,445	Thermometers, chemical	Washington, D. C.	.60
458-D	15873	5,236	Thermometers, chemical	Washington, D. C.	.40
460-D	16888	800	Clippers, horse, hand	St. Louis, Mo.	1.00
462-D	16890	600	Trocars and canule	St. Louis, Mo.	.35
463-D	16891	200	Tubes, trachea	St. Louis, Mo.	.75

MILLION FRANC MATERNITY HOSPITAL FOR CHALONS

Ground has recently been broken for the erection of a model maternity hospital at Chalons, France, to cost one million francs. The undertaking is financed by the Friends' Unit of the American Red Cross, partly from funds which are the proceeds of cost sales of supplies to inhabitants of this region and partly from direct gifts. English Quakers are also participating in the work, which is described as a "venture in international friendship."

The hospital, designed to take the place of the temporary dispensaries, hospital and babies' clinics that have sprung up throughout the devastated regions in wooden barracks provided for the purpose by the American Red Cross, will be the most complete and modern institution of its sort in France. Two American and two English nurses will ensure a permanent co-ordination of the clinical methods of their countries with those of France. About sixty endowed beds will be set aside for the free use of the people of Chalons and neighboring villages.

The need for an institution of this sort has been met till now by a temporary maternity clinic which received a thorough equipment from the Red Cross. The returning flood of refugees to the devastated regions of the Marne Valley, however, swamped the resources of the existing institution and a new building was decided upon.

MEETINGS, CONVENTIONS AND CONFERENCES

PROGRAM OF AMERICAN HOSPITAL ASSOCIATION TAKING SHAPE

Although the final program of the American Hospital Association will not be decided upon for some time, considerable progress in its preparation has already been made. The subjects thus far scheduled are up-to-the-minute topics and show that the program committee is thoroughly alive to the problems in the hospital field which are pressing for solution. The speakers are authorities in their particular fields. Here are some of the subjects which have thus far been selected and the speakers who are to deal with them: Community Hospitals as a Solution of the Rural Health Problem, Dr. F. E. Sampson, Greater Community Hospital, Creston, Iowa; The Place of the Dispensary in the Public Health Problem in the Future, Mr. John A. Lapp, managing editor, *Modern Medicine*, Chicago, Ill.; Community Funds for Capital Expenditures, Mr. Pliny Clark, superintendent Presbyterian Hospital, Denver, Colo.; Industrial Clinics in General Hospitals, Dr. Wade Wright; The Function of the Social Service Department in its Relationship to the Administration of Hospitals and Dispensaries, Miss Ida M. Cannon, director Social Service Department, Massachusetts General Hospital, Boston, Mass.; Organization and Standardization of Hospitals, Dr. James C. Fyshe, Edmonton Hospital Board, Edmonton, Alberta, Canada.

BRITISH COLUMBIA HOSPITAL ASSOCIATION GRAPPLES WITH PRESSING PROBLEMS

By M. T. MAC EACHERN, M.D., C.M., President

The third annual convention of The British Columbia Hospital Association was held in the King Edward High School, Vancouver, June 23-26, at the same time and place as several very important national conventions. The meetings were largely attended by representatives including hospital superintendents, members of boards of trustees, doctors, nurses, and others interested in hospitals.

The work of the convention this year was divided into Nursing, Medical and Business or Financing, one day being devoted to each of these. Two joint sessions were held, the first with the Canadian Public Health Association on Wednesday morning, and the other with the National Mental Hygiene Committee on Thursday night. Dr. M. T. MacEachern, president of the Association, who presided at a large number of the sessions, was assisted by others,—Miss J. F. MacKenzie, R.N., superintendent of nurses, Provincial Royal Jubilee Hospital, Victoria; Miss E. I. Johns, R.N., director of nursing, Vancouver General Hospital and University of British Columbia, Vancouver; Mr. R. S. Day, president, Board of Directors, Provincial Royal Jubilee Hospital, Victoria; Dr. H. C. Wrinch, superintendent Hazelton Hospital, Hazelton, and Mr. Charles

Graham, president, Board of Directors, Cumberland General Hospital Cumberland, B. C. Drs. H. E. Young and M. T. MacEachern, presidents of the two associations, presided at the joint session on Wednesday morning. Mrs. M. E. Johnson, R.N., superintendent Bute Street Hospital, Vancouver, acted as secretary, and was assisted by Miss Frances Henry, Vancouver.

Generally speaking, throughout the meeting the greater portion of the time was given to round table conferences and discussion. One of the most pleasant and profitable evenings spent was the "get-together" round table conference-question drawer and informal reception given by the Vancouver members on Wednesday evening in the banquet hall. The closing event of the convention was a luncheon given by the Vancouver General Hospital on Saturday, June 26th, at which a short round-table conference was held and the new president, Dr. H. C. Wrinch, was inaugurated.

Nursing Session

During the nursing session many problems of interest were discussed. Special consideration was given to nursing standards, nursing education and nursing service in hospitals of twenty-five beds and under. All speakers referred at length to the shortage of nurses, and the following were some of the main reasons advanced:

First—The scope of work for the graduate nurse has recently rapidly enlarged in many directions, but particularly in public health fields and in our health institutions. Work formerly not done or carried on by others, is now delegated to the graduate nurse. No provision has been made to meet this increased demand.

Secondly—Our hospitals are rapidly extending their service without due provision for the proportionate increasing of the nursing force.

Thirdly—The nurse-in-training has been more or less exploited by our hospitals for the menial work of the wards which could be done by others. Owing to the financial difficulties of hospitals the nurse-in-training has been found "cheap labor" and a means of economy.

Fourthly—There is a general lack of good living and working conditions. Better nurses' accommodation and shorter hours—the eight-hour system.

Fifthly—Many training schools which are lacking in teaching facilities and efficient teaching personnel on account of finances, are not giving their nurses the training to which they are entitled.

The many problems introduced found solution, wholly or in part, in the papers and discussions which followed.

The establishment of a proper standard for our training schools was discussed, and might be summarized as follows:

That all young women taking up nursing should have at least partial or complete high school education; that all hospitals conducting a training school should have the necessary equipment and teaching personnel in order to give these young women a proper training; that the necessary provision be made which would insure the teaching of ethics, instilling into the minds of these young women the spirit of service; that a standard physical requirement should be demanded.

The province of British Columbia has decided on a standard and this has been published and distributed, but a survey of the training schools during the past year re-

vealed the need for more propaganda amongst boards of trustees, doctors, nurses and others to stimulate them to more interest and a keener sense of responsibility in relation to training schools connected with our hospitals; for better teaching facilities and teaching personnel for our training schools; for more financial assistance for training schools. It was indicated that efforts would be made to induce the Government, if possible, to make special grants to training schools, similarly as they were doing for all other teaching or educational services rendered in this province.

Nursing education engaged the attention of the convention for some time. There is a distinct need for connecting up the training school with the higher educational institutions today. This has been done in British Columbia, and in no other place in Canada. Today the combined course, extending over five years and leading to the degree in nursing is in operation. This course consists of two years academic or preparatory work, two years in an accredited hospital, and the final year given to specialization—training school administration, pedagogy, or public health. The inauguration of this course was to meet the great demand in western Canada for people to fill responsible positions in our many institutions and public health fields. Simultaneously and harmoniously the Vancouver General Hospital in cooperation with the University of British Columbia is meeting the diversified needs of our province. The director of nursing of the Vancouver General Hospital is also director of the Department of Nursing in the University of British Columbia.

How the small hospital can carry on a training school is today a live issue and it was generally conceded: that training schools should not be conducted where there was less than a daily average of twenty-five patients; that where there was less than a daily average of twenty-five patients, graduates and ward assistants could give the best and most economic nursing service; that any hospital of a daily average of less than twenty-five beds endeavoring to conduct a training school must make provision for proper training of their nurses by affiliation with one of the large hospitals of the province, and the difficulty of instruction should be met in one or other of the following ways: (a) Proper teaching facilities and efficient teaching personnel, (b) Traveling instructors, if practical in our province, (c) Specially planned curriculum for such training school.

Public health nursing has of late years, and especially since the war, aroused great public interest. Combined with this is health education which has a substantial place in the education curriculum both of the normal and public schools of Saskatchewan. Public health nursing fields are rapidly opening up and being filled. Our Canadian universities are helping to train personnel to fill these positions as rapidly as possible. Already public health courses for nurses have been established in Toronto, Dalhousie, and British Columbia universities,—with others contemplated.

Cooperation between voluntary societies and the public health organizations now in existence is noticeable today. The professional is aided by the non-professional, all working together for a greater and better service to humanity. All must co-operate with the state health organization, which is the fundamental basis, and supplies most of the money. Greater cooperation should be established between the public health nurse in the rural community and the hospital in that centre. Hospitals have curative, educational, and scientific obligation to society to fulfill. Equally as important and necessary are their duties in

preventive medicine to which they should contribute their share by a well established cooperation with the public health nurse in her activities.

The nursing session throughout was one of local and national interest and many vital problems were up for discussion. Though these were well discussed and debated, yet it was felt that something of a more real and constructive nature should follow, and as this was almost impossible to accomplish at the convention, a committee was accordingly appointed to go carefully into the deliberations of the day and report to the association later, possibly to the executive at its next meeting or at the next convention.

Medical Session

The medical service of all hospitals is under scrutiny today and the question to be answered is "Is the hospital giving the right kind of medical service to its patients?" Production sheets must be analyzed. A survey of our province finds many living up to the present day requirement, and others wanting to do so but unable, owing to financial circumstances. It is unfortunate that many of our health institutions have sprung into existence without any definite standard or recognition of conditions conducting highly efficient service. Many are lacking in structural and architectural design. Many are poorly equipped and personnelled. Other are up to date in every respect and have as their ideal the highest type of service. In all cases, more propaganda and finances are needed. It is indeed very necessary that the hospitals of our provinces establish a more substantial method of financing. This seems to be the very root of all our deficiencies, and being such, it behooves us to remedy it. The spirit of service found in the hospitals of the province was wonderful; and several with deficiencies in equipment and staff were doing good work under trying circumstances.

More interest must be aroused in boards of trustees, and better cooperation induced between them and the medical men of the hospital community. Generally speaking, properly regulated hospital propaganda to arouse more community interest in the institutions is needed, and no doubt this is being fostered and developed through our hospital association.

A large number of the hospitals in this province can readily meet the minimum standard. Several have been reviewed from this standpoint, and some fourteen or fifteen of fifty beds and over have fallen in line, or are going to do so. Every hospital has a medical staff, but unfortunately in some cases there is not the cooperation between the members that is desired. This must be better fostered. All hospitals can have good records, and the only reason for not having them is laziness on the part of the medical men attending. Every hospital should be able to do the routine laboratory work, including urinalysis, smears, sputums for tuberculosis, blood counts, etc., and the more difficult work, such as pathology, serums, vaccines, etc., should go to the district or divisional laboratory, which in this province is the provincial laboratory. This is now all being worked out for the province. Hospital standardization as it is known to us all should well be considered as the minimum service any institution should give if it desires to render the community the kind of service to which it is entitled.

A standardization survey of the province has revealed a great need for laboratory and x-ray technicians, and medical record clerks for our hospitals. It is fully agreed that all hospitals should render at least a minimum service, including provision for meeting all emergency work which arises in the community, treating all types of med-

ical cases, and for doing maternity work. To do this properly we must have medical case records, and routine laboratory and x-ray work, which in turn calls for trained people—medical record clerks and technicians. The doctor of today will not do this work; hence we must look to nurses or others specially trained in these departments. To that end the Vancouver General Hospital is contemplating a ten months' course of training for nurses or others in the laboratory, x-ray and medical records, thus fitting persons to go to the various smaller hospitals and do the work. Undoubtedly this will meet a present urgent need and do much to improve the medical service of our hospitals.

In many instances today there is need of drawing the medical staff into more sympathetic touch with the hospital and of developing of more constructive interest. The medical men must be imbued with the spirit of good hospital service. They must scrutinize the medical work of the hospital and lay down a constructive policy assuring the best possible efficiency in its service rendered. They must write their own medical records and conform in every respect to the requirements as laid down in hospital standardization.

Hospitals today must be well organized, and medical supervision of some kind is necessary. The doctor may give his services gratis or be part time or full time,—depending on the size of the institution. Arrangements can always be made for the medical supervision required. The smaller the hospital, the more and diversified the duties will be which fall on their superintendent or the one directly in charge. Let the organization be outlined, clearly cut and definitely defined, with centered authority, and each person in it knowing well the full measure of his or her responsibility or authority. If the institution grows, this organization can be filled in as required. The larger hospitals, say of one hundred beds and over, should have a resident medical officer in charge, as the responsibility is too much for any person other than that of a medical man.

Dietetics in relation to the scientific treatment of disease is today recognized, and is being gradually introduced into all our hospitals. We now find the internist, the dietitian, and the laboratory man working hand in hand in the successful treatment of many diseases hitherto thought incurable or chronic, through the scientific application of food principles. All our hospitals must pay greater attention to this branch, and superintendents of these institutions must equip themselves with the knowledge necessary for the practical application of these well proven principles of dietetics in its relation to disease.

The recent advances made in psychiatry make it necessary that our hospitals give more attention to this branch of the service. We must of necessity make provision for the psychopathic cases coming to our institutions. We must provide better means for a longer and more expert or scientific observation before committing to the mental hospitals. The larger general hospitals must have psychopathic wards where cases can be kept under observation for diagnosis. By so doing, a great economic problem of the state will be solved.

Business Session

Probably the subject that is most engrossing the minds of boards of trustees and others connected with our hospitals is that of finances. There is a universal lack of money with all our institutions, which, in the vast majority of cases, is impairing efficiency. This is a very serious predicament, and active steps must be immediately taken to secure ample and certain methods of financing

hospitals, to replace the indefinite and unreliable sources depended upon at present. It was conclusively proven that the municipalities of British Columbia were not contributing to hospitals as liberally by any means as the Government, which in the past year in this province gave over \$1,400,000 to hospitals. Not only are our hospitals hampered for running expenses, but also for capital expenditure. The proposed health tax suggested by the Secretary of the Provincial Board of Health gave encouragement to all in this respect, and it is earnestly hoped will be a reality soon.

Standardization of hospital accounting has not as yet been developed here, but is necessary in order to have an intelligent business interpretation of our hospitals so far as costs or expenditures are concerned. It will mean a more comprehensive knowledge of how best to distribute the charges in a fair and equitable amount, and as well, will afford a basis on which revenue and expenses can be better correlated. Accurate accounting is as necessary in a hospital as in a business concern.

It is difficult to argue the question of purchasing supplies by contract or by the open market, but generally speaking, money can always be saved by buying by contract, provided the market is somewhat stable and a definite specification of goods is required. Contracts for long periods is not advisable at present, owing to the ever-soaring prices. Competitive buying, as, for instance monthly contracts on groceries, etc., is always considered good policy.

Hospital architecture today has become a specialty of its own, for these institutions must be so planned as to be part of the treatment itself. Very careful attention should be given to air space, ventilation, sanitation, tints or colors, etc. Vastly important is the general layout with the relation of the placement of the various services so as to insure efficiency and economy of service, and reduction of labor in administering to the patients with the minimum number of steps to be taken each time. Too many hospitals are built without due consideration of the needs of the community—present or future. Some standard must be evolved as a guide for future hospitals.

There seems to be a great diversity in hospital charges, but a uniform system can be adopted only when we have a better knowledge of costs and when we are able to standardize the much talked of "per capita cost." In nearly all cases the "per diem cost" in each institution is much lower than rates charged. All charges made, including special and contract, should take into consideration the per diem cost prevailing in that institution. It would be pleasing if we could arrive at a uniform service in all our hospitals, and thus a uniform cost with uniform charges. Most hospitals have a large number of so-called extras, covering laboratory, x-ray, operating room, anesthetic, and drug charges. It might be possible to combine all these in a flat charge, which would require less bookkeeping and not be so annoying to the patient when called upon to pay the bill.

The convention appointed a committee of hospital accountants to bring in a report on hospital accounting and allied matters pertaining to financing of our institutions. This committee will consider standard and uniform methods of business procedure for our hospitals, and report at the next conference.

Other Hospital Problems

The hospitals of British Columbia have made wonderful progress, but still have vital problems to be solved.

In this province today provision has not been made by the Government for the care of the incurable, which, in

most provinces and states, is regarded as a duty of the State. At present this burden is carried by the Vancouver General Hospital and several other institutions of British Columbia. Negotiations have been going on with the Government for several years, but no action has yet been taken. However, we have reason to believe it is under very serious consideration at present. There is only one solution, which is known to all. Nearly one hundred of these cases are at present cared for by the Vancouver General Hospital in their splendid institution at Marpole, where all the comfort, medical and nursing care are afforded, and ample provision made for light employment or vocational work. The financial burden, however, should be assumed by the State.

Our province as a whole is greatly lacking in proper hospitals to look after infectious cases. The buildings afforded are usually unsuited and inadequate in all respects. Two things are necessary here today: firstly, the establishment of up-to-date isolation hospitals throughout our province, where needed—possibly the consolidated municipal system recommended two years ago—would be the most efficient; secondly, all general hospitals should provide the necessary segregation and observation wards for cases, thus lessening the cross-infection and epidemic outbreaks that we know occur in them from time to time, and which is unavoidable under the present system. Segregation of children, particularly, is necessary through the incubation periods at least. The proper handling of the infectious cases, with precautions against spreading infection, is an important economic question for any community, and means of protecting the community against epidemics is not only desirable, but a duty to humanity.

We are all agreed that, generally speaking, visitors and visiting in hospitals is a menace to all concerned. Visitors disseminate infection, waste the time and energy of the nurses and staff, causing them often to work harder and remain longer, aggravate the disposition of even the most pleasant and courteous, and possibly more important than anything else, retard the physical progress of patients. It has been proven over and over again, experimentally, by the Vancouver General Hospital, that when visitors were excluded from any section of the hospital the service to that section was far superior than otherwise, and the physical progress of our patients immeasurably better than when visitors were allowed. The tabulated results from findings during the influenza epidemic in the Vancouver General Hospital proves without a doubt the point in question. Public education is necessary, combined with a united effort on the part of all our hospitals to cut down visiting in hospitals.

Convention Business

A great deal of business came before the convention and was either disposed of or referred to the executive. The report on by-laws and constitution was left over till the next meeting, and in the meantime the hospitals were all to receive a copy of the proposed changes. The committee on officers for the ensuing year submitted the following slate, which was adopted unanimously.

Officers for 1920-1921: Honorary president, Hon J. D. MacLean, Victoria; president, Dr. H. C. Wrinch, Hazelton; first vice-president, Mr. R. S. Day, Victoria; second vice-president, Mr. R. A. Bethune, Kamloops; secretary, Dr. M. T. MacEachern, Vancouver; treasurer, Mrs. M. E. Johnson, R.N., Vancouver.

Executive committee: Miss E. I. Johns, R.N., Vancouver; Miss M. P. MacMillan, R.N., Kamloops; Mr. Charles Graham, Cumberland; Dr. W. E. Wilks, Nanaimo;

Miss L. S. Gray, R.N., Chilliwack; Mr. George R. Binger, Kelowna; Mr. D. G. Stewart, Prince Rupert; Rev. Father O'Boyle, Vancouver; Miss J. F. MacKenzie, R.N., Victoria; Mr. E. S. Withers, New Westminster.

The time and place of the next meeting were left to the executive. Vancouver, Victoria, and Kamloops were named. This will likely be decided by vote of all the hospitals.

H. C. OF L. UNDERMINES HEALTH OF NATION

The municipal Health Department of New York City recently gathered some enlightening data concerning the effect of the high cost of living on health conditions. The group studied included 2,084 families, constituting a typical cross section of the city. In estimating the resources of these families, the bureau found that 21 per cent had a total income of \$600 or less per year during 1918 for the support of an average family of five persons; 30.5 per cent had a total of from \$600 to \$900 a year, and about 21 per cent had an income of from \$900 to \$1,200. In over 9 per cent of these families charity aid was necessary, and in 10 per cent the women were in industry. Of 2,183 cases of illness, 287 were definitely retarded, due to inability to obtain the essentials of life. In an age when physicians all over the world are realizing the close correlation between diet and disease, and are preaching the necessity of a balanced ration for growing children, it was found that the high cost of living was preventing a large per cent of the families with children from obtaining the necessities of life. In 293 families the use of bottled milk was given up, in 206 families milk was entirely eliminated, and in seventy-one the amount was considerably reduced. Sugar was denied the children in seventy-one homes, and the amount used was reduced in 139 families. The use of meat was entirely eliminated in 807 families, and was decidedly curtailed in 388 homes. In 370 families butter was omitted from the children's diet, and in 191 homes, appreciably reduced. Economic conditions such as these cannot but make the fight against disease most difficult, and preventive medicine either exorbitantly expensive—if any attempt is made to furnish families in impoverished health with proper food—or ineffectual, if food prices and conditions are ignored.

TO CLEAN BATHTUBS

The *American Journal of Nursing*, in a recent issue, prints the following advice on the proper cleaning of bathtubs:

Clean the tub and wash bowl with hot water and soap. A few drops of kerosene on a cloth may be used if the tub is greasy. Wash thoroughly with soap and hot water afterwards to remove odor. Iron rust can be removed with vinegar or dilute oxalic or hydrochloric acid. Do not use acid except on the area where the rust is; wash at once with soap and hot water. Marble wash basins should be cleaned with soap and hot water. Use a fairly strong solution of ammonia or washing soda to remove stains (no acids). All faucets and other nickel fittings should be cleaned with hot soap and water and polished with a dry cloth. Coarse abrasives should not be used to clean porcelain bathtubs or basins, or marble, as they destroy the polish. Nickel being only a plating, is also destroyed by the use of abrasives.

Public Health Work for State Society

A special committee appointed at the recent meeting of the North Carolina State Medical Society has made its report urging that a permanent committee be named to prepare a plan for the administration of public health.

NURSING AND THE HOSPITAL

Conducted by CAROLYN E. GRAY, R.N.,
132 E. 45th Street, New York City

SYMPORIUM ON PHARMACY FOR NURSES

PRACTICAL PHARMACY FOR NURSES

By WILLIAM GRAY, Pharmacist, Presbyterian Hospital, Chicago.

About twelve or thirteen years ago, Johns Hopkins was the only hospital which undertook to give its nurses practical pharmaceutical instruction in the drug room. At that time Miss McMillan, the head of the school for nurses of Presbyterian Hospital, asked me if I was willing to give such a course to our nurses. She suggested that I take time to think it over before answering. I told her that I did not need time for consideration; I would undertake the work gladly. Whether I have had occasion to regret this rash decision may be judged by the end of this article.

Each nurse gets one month's practice in the drug room during her junior year. The number working there at one time varies, according to the size of the class in training, from six to seventeen. The work in the pharmaceutical department is altogether practical in character. The pupils receive instruction in *materia medica* from the professors in that subject at Rush Medical College. In the drug room they learn to fill capsules, to put up powders, to prepare solutions, and even to make suppositories. What is more important, they learn pharmaceutical arithmetic; that is, they learn the real meaning of the figures and tables which they thought they had learned in the school room long before. Most important of all, they are taught what might be called the technique of applied common sense in the handling of drugs.

Our pupil nurses are of exceptionally high grade; all are high school graduates, and many are university graduates. All of them, therefore, have learned their tables of weights and measures, and all have learned to translate percentages and decimals into vulgar fractions, and vice versa. They have learned these things, however, in the way that most educated people have learned them—as abstract exercises, unconnected with real things. Not a few supposedly well educated people, given a 1:300 solution, would add to it a 1:200 solution in the hope of getting a 1:500. Again, a good many people who in theory "know better" would, if asked to say offhand what percentage one-fiftieth represents, answer "50 per cent."

Sense of Proportion Developed

So we make it a point to drill the pupil nurses to really know the meaning of percentages and fractions. We try to develop a sense of proportion—a sense of the mass relations between quantities—so that writing a decimal is not a mere mechanical placing of a decimal point, but the expression of a quantity which is felt to be small or large, whether expressed in common fractions or in deci-

mals. We try, moreover, to make the weights and measures used in pharmacy realities—to have the pupils visualize the units, so that they know what 25 cc. of sodium chloride solution or a fluid ounce of water looks like. We teach them to recognize the results of subtraction and addition by sight, just as they know at first glance whether the change for a dollar offered in payment for a thirty-five-cent purchase is correct.

We teach our pupils to value exactness. We insist on the spelling "gramme" instead of "gram" because the latter, hastily written by hand, might easily be read "grain." We teach the exact instead of approximate equivalents between the metric and apothecaries' systems. We show by actual demonstration that a drop is not always a minim, but varies according to the dropper and the viscosity of the liquid.

We show practical short cuts in calculation, as, for instance, in making a solution of one strength from a solution of another strength. Thus, given a 50 per cent alcoholic solution from which it is desired to make a 60 per cent alcoholic solution: the ratio between the weight or volume of the present solution and the weight or volume of the substance to be added is the ratio of the difference between the percentage desired and 100 per cent to the difference between the present percentage and the percentage desired. The difference between 60 and 100 is 40; the difference between 50 and 60 is 10; therefore, take 4 parts of the 50 per cent solution and add to it one part of alcohol, and you will have five parts of a 60 per cent solution.

Applied Common Sense

In the "applied common sense" or "safety first" division of the course comes instruction to avoid divided attention. If, when one is reaching for a bottle on a shelf, for instance, someone else speaks, claiming the attention for the moment, the hand, unless arrested in its search, almost invariably takes the wrong bottle. We try to emphasize the importance of giving undivided attention to such tasks—or stopping at once if the attention is distracted. We teach our pupils not to depend on the appearance of the container or the substance it contains, but always to read the label, not merely once, but twice, once before taking out the dose, and once before replacing the bottle on the shelf. We emphasize the necessity of following a predetermined routine in setting out the various containers, and of checking and rechecking to see that no mistake has been made.

As may be imagined, it is not possible to follow any set plan or course of instruction; the demands on the pharmacy from day to day or from hour to hour determine

the work done by the pupils. I believe, however, that the educational value of this work is all the greater, since the purpose is not to pour into the minds of the pupils as large a mass of information as possible, but to vitalize what they do know—to wake them up. I tell them that the worst thing in the world is indifference: "I'd rather you were downright stupid than indifferent." That this spirit of interest does pervade the work and the pupils is perhaps shown by the fact that most of the nurses would like to come back and take another month in their senior year.

Is it worth while? Nurses do not compound prescriptions on the floor; what is the gain to the hospital in teaching them anything about the work and the methods of the pharmaceutical department?

So far as the work accomplished in the pharmacy is concerned, the assistance rendered by the pupil nurses just about balances the value of the time spent in instructing them. The gain to the hospital is chiefly in the better protection of the patient, and the better understanding and cooperation between the nurses and the pharmaceutical department. Nurses who have not had this experience are sometimes, through lack of understanding, inclined to be unreasonable or wasteful; whatever they want they must have, even if a submarine has to be chartered to fetch it; and they are sometimes inclined to order in extravagant quantities. They become more thoughtful in these matters after they have had practical experience; therefore I feel that the time used in this work is well spent.

INSTRUCTING NURSES IN PRACTICAL PHARMACY

By H. L. WALZ, Pharmacist, Johns Hopkins Hospital, Baltimore.

I have often been asked of what use is pharmacy to the nurse? In answering this question I can do no better than outline the Practical Pharmacy Course as given at The Johns Hopkins Hospital Training School for Nurses. I must admit that a few lectures on the subject are of no use to the nurse, but a practical course, however short, is of great value both in her training and in following her profession. Surely, a nurse can, more intelligently and with more confidence in her ability, give medicine, make solutions, and perform other ward duties after having had some practical knowledge of dosage, weights, measures, and the handling of drugs and chemicals. In small hospitals, there is no reason why a nurse so trained could not perform part of the duties of a pharmacist.

In a practical course in pharmacy the field to draw from is so large that it is rather difficult to select that part that will be of greatest use to the nurse, and at the same time not crowd too much in the allotted time. The courses being given to the nurse only in her probation period also makes it rather difficult. It would be much better were it possible to divide the course and have part in the junior year.

In my effort to over-come these difficulties and to make the course as practical as possible I have the pupils prepare all the ward medicines. By this means they have a variety of practical work, and become familiar with all the preparations they will finally handle in the wards. Knowing that all the preparations made are used, they take more interest in their work, and it gives them more self-confidence. Right here though, I wish to point to the great danger of this arrangement. One must remember that all the medicines are used. They are being prepared by inexperienced people that know nothing of dosage, drugs, chemicals, weights, or measures. There-

fore, it is absolutely necessary that the class be small; the instructor must give undivided attention to the work, and a checking system must be strictly adhered to. As the course is all practical I use no text book on pharmacy. Each pupil is provided with a printed card containing the tables of the various weights and measures and other useful information.

The course covers a period of two weeks from nine to one o'clock daily. The pupils take the course in groups of eight. The ward trays are delivered to the pharmacy in the morning and placed in four divisions. Two pupils take the work of one division. By changing the division each day they will, in four days, have become familiar with the work of all the wards. This division of the wards also enables them to know exactly where to take up the morning's work. After the work is assorted, it is taken to their working counter. Each counter is provided with shelves containing bottles of the most used chemicals; with weights in both apothecary and metric; a counter scale for two pupils and a finer scale for four; a cupboard containing apothecary and metric measures and other articles used in pharmaceutical work. After having arranged their work I give them my undivided attention and direct them in preparing the various preparations. Every preparation made must remain side by side with the drug and weight or measures used, and every bottle filled must remain by the original container until checked off. After completing the ward work, which will take about two hours, the rest of the morning is devoted to the compounding of hospital, pharmacopoeia and national formula preparations. As the pupils work can easily be checked day by day I do not think it necessary to give a final examination.

PHARMACY AND THE PUPIL NURSE

By MARY J. MacKAY, R.N.

A course in pharmacy for nurses should be especially valuable to the nurse who intends taking an executive position in a hospital where no pharmacist is employed. Many hospitals depend on the neighborhood druggist for the greater part of their prescription work. In these hospitals, however, considerable dispensing is done by the nurse, powders are weighed out, capsules and konsseals put up, ointments of the simpler sort compounded, and solutions of various strengths made up. It is very important, therefore, that instruction regarding this work should be given before the nurse graduates, in order that it may be performed in a competent manner. In some hospitals pharmacy is now being taught after a fashion, but there seems to be a great need of some sort of a systematic course, embracing pharmacy, chemistry, and *materia medica*, as these subjects are so closely allied.

Classes in practical pharmacy should be of great benefit in enforcing the habits of neatness, accuracy, and cleanliness. Practice in weighing small amounts correctly, with proper care of the balance, may seem irksome at first, but in time the process becomes almost automatic. Pills designated as white must not show black streaks, and konsseals containing a dark gray powder are not expected to partake of the same shade of gray. In some such instances Godliness seems more easily attainable than cleanliness.

Weight and Measure Drill Important

It is very important to drill the pupils constantly in the tables of weights and measures. This should not be a parrotlike performance, but the various weights and

measures should be actually used. I've found it a good plan to place the graduates in a row, beginning with that used in measuring minims, then by degrees reaching the pint graduate. The possibility of error when using a four-ounce graduate to measure one dram may be easily shown. Nurses are taught from the very beginning that a drop is not always equivalent to a minim, but how many realize that drops vary in size, depending on the medicine dropper used, the size of the mouth of the bottle, the thickness of the glass, etc. In fact, accuracy can never be attained in measuring medicine in form of drops, so whenever possible the minim glass should be used instead. In purchasing drugs it is well to note that they are sold by avoirdupois weight, although dispensed by troy weight.

Great accuracy should be used in making up solutions of various percentages. No one will go very far wrong who remembers that these percentages are calculated by weight and that in making up solutions of drugs in water, one ounce of water weighs 456 grains. Of course where the drug is dissolved in alcohol or any medium except water, the specific gravity of such solvent should be reckoned with.

A certain amount of arithmetic is required, as a problem such as the one following often confronts us: How much silver nitrate should be added to 80 grams of a 10 per cent solution of silver nitrate to make a 25 per cent solution of the salt?

The solution of such a problem is very simple, and the knowledge of method used is of much practical value.

All Should Know Metric System

The metric system should be familiar to all. In transposing from English system to the metric, one small fact has been of great assistance to me, *i. e.*, one grain equals .065 gram. The cubic centimeter which we have met so often in the past has, of course, been replaced in the last edition of the United States Pharmacopoeia by the milliliter, commonly written as Mil. The term Mil. does not convey anything special to our minds, but when we think of it in terms of minims, we know exactly where we are. This shows how firmly fixed the English system is in our minds. If the pupils are allowed to use the metric system only, the dread of it which seems to lurk in so many minds would soon be dispelled. The ease with which various percentages can be reckoned soon makes it a friend of all. It is used entirely in the United States Pharmacopoeia, with the use of which every nurse should be familiar, as well as with that of the National Formulary and Dispensatory. It is highly important to know where much needed information can be obtained in an authorized form. The best methods of keeping medicines in good condition should be taught. If nurses know which medicines should be kept cool, and tightly stoppered away from the light, we should not be so apt to see eight ounces of 20 per cent argyrol put up in a clear glass bottle reposing on the drug room shelf, the embryo pharmacist in the meantime congratulating herself on having so much made up in advance—a stock solution, as it were. Medicines containing a feathery looking growth would also be returned at once to the drug-room, as well as fermented glucose solutions, and chalk mixture, if the importance of freshly made solutions and mixtures in certain cases were properly impressed on the mind of the nurse. Basham's mixture would hardly then be ordered by the gallon to serve the needs of a small hospital.

Solubilities of different drugs should be drawn to her attention. We know that the bottle of lime water should be kept in the ice chest, but the reason for this is not

always clear, depending on the fact that we have a stronger solution of lime water when cold than when hot.

Whether a drug is hygroscopic or deliquescent should be noted. The glycerine bottle therefore, should never be left unstoppered nor potassium acetate dispensed in powder form.

Economy in the use of drugs, some knowledge of their cost, the best form in which to purchase them, in fact so many things of value may be taught that it is hard to know where to stop.

GREAT NEED FOR NURSES FOR U. S. PUBLIC HEALTH SERVICE

Beginning in the summer of 1918, the Surgeon General of the United States Public Health Service applied to the Red Cross for nurses for various types of hospitals that were being operated under its auspices. Later developments indicate that very large numbers of nurses will be required. It therefore seems important that the nurses of the country should have this opportunity brought to their attention, and that full information concerning the nature of the service and accompanying difficulties attendant upon any new type of work should be clearly understood.

The Public Health Service is one of the oldest medical Government organizations in the country, and the history of its work shows that its service to the Government and the public has been extremely valuable. It was first established to give hospital relief to seamen of the Merchant Marine, in 1798, and named the Marine Hospital Service. Changes have been made both in its duties and name, from time to time, until now it embraces, in addition to the hospital service, many other branches of work, all in relation to the national public health. In these increasing responsibilities imposed upon it from time to time, the hospital service had become but a small part of its general activities, until the Act of March 3, 1919, by which the Public Health Service was detailed to give medical care and treatment to such patients of the Bureau of War Risk Insurance as were designated to it. With these tremendous responsibilities for hospital care and treatment, the Public Health Service is but returning to its own, that is, to the original activities for which it was established—hospital service.

When the first marine hospitals were built there was never any idea in the minds of those in authority that women nurses would be placed in these hospitals, and therefore no quarters were built for nurses. There are twenty-three of these marine hospitals, and the Service has taken over from the Army and Navy, by rental and by purchase from civilian organizations, other hospitals as the need arose, under the Act of March 3, until now there are in operation fifty-two hospitals with a nursing personnel of 950. Many of these hospitals are barrack hospitals and quarters for nurses are somewhat like those used by the nurses in the Army. It is recognized that these quarters fall short in many instances, and that other conditions for nurses in the Service have not been altogether satisfactory. However, these conditions are improving daily and nurses in the Public Health Service will eventually receive the pay, emoluments, privileges, and allowance of nurses in the Army and Navy. The work has been and is still pioneer work. The group of women that has remained in the Service is of an exceptionally high type.

New Hospitals to Be Opened

The Public Health Service expects, within the next few months, to open a number of additional hospitals, among

them Fort Bayard, New Mexico; Knoxville, Iowa; Lake City, Florida; Helena, Montana; Missoula Barracks, Montana; Hudson Street, New York City; Fort McHenry, Baltimore; Speedway, Chicago; and a number of others.

The quota of nurses needed for the hospitals now being operated is below the minimum and additional nurses will be required for the new hospitals. Appointments of about twenty-five nurses each week are made, but due to the number of resignations, only about 50 per cent of these nurses are new appointments.

It is estimated that within the next two years, the Service will care for at least 35,000 patients and that between 3,500 and 4,000 nurses will be needed to carry on this work.

While it is not definitely settled that the Public Health Service will be benefited by the passage of the pay bill which increases the pay in the Army and the Navy, it is hoped that arrangements will be made whereby nurses in this Service will be benefited by increases in pay.

Thirty chief nurses represented the Public Health Service at the meeting of the American Nurses' Association in Atlanta, and daily conferences were held with the nurse relative to standardizing the Nursing Department of the Public Health Service. These women were a very representative group. All of them have been for some months in the Service and expect to remain.

Many of the conditions which have made the work difficult for the nurses in the Public Health Service have been unavoidable. Those that are avoidable are being remedied as rapidly as possible. The question of quarters for all personnel is acute; the price and shortage of materials, the difficulty of securing labor, add to the problem.

While this is not active military service, it is closely related. Our soldiers and sailors who have been disabled by war are as much in need of good nursing as they were during the period of active hostilities. No finer patriotic service can be performed at this time than to give care to the men and the nurses who served with the Government during the war, and the Red Cross therefore appeals to Red Cross nurses to make application for appointment in the Federal Public Health Service. Information may be obtained from the Division Directors of Nursing, in any of the thirteen divisions, or from the Department of Nursing, American Red Cross, Washington, D. C.

"SAFETY FIRST"

By CAROLYN E. GRAY.

The mail brings me a letter asking for arguments against "physicians' verbal orders to nurses," and with the perversity of human nature, all the arguments I have ever heard in favor of verbal orders come trooping into my mind. The young intern presented with a pen and a book in which to write his orders, feels a natural reluctance to commit his ideas to the grim reality of black and white. He is not always so sure of them that he wants to see them staring at him when the famous Dr. _____ comes to visit his patients, and incidentally to supervise the intern's work. One sympathizes with this feeling of reluctance and is ready to pay cordial tribute to the manly way in which it is usually overcome. But "written orders" furnish such a small part of the seemingly endless amount of clerical work exacted of interns, that as the months pass one notices on the part of the interns, not a readiness to overcome this easily understood reluctance, but rather a determination to "cut out" all the clerical work possible.

It is difficult to justify the amount of clerical work required of young men who have passed medical examina-

tions and are spending time in the hospitals for the purpose of testing out and reinforcing their medical education.

There are marked differences of opinion regarding the educational value of writing histories, though there is pretty general agreement that a study of the facts necessary for writing a history is of value. During the war, when there was a shortage of interns, many hospitals tried the plan of having a clerical assistant, who accompanied the doctors when they were taking histories, took shorthand notes from dictation, and later wrote out the history on the typewriter. This innovation was very popular; the interns liked it because it left them free for such study of their patients as they were interested in; the visiting doctors liked it because of the legible histories that were the result; but most important of all, it shortened the time necessary for history taking, which is very often an exhausting process for the patient.

INSURING PATIENTS' SAFETY

If all this is true, then what can be said in defense of a system that requires doctors to write out all their orders with pen and ink, or, still worse, to print them? My answer is that it spells safety for the patient, and after all, that is the acid test. "To err is human," and with this in mind, one can think of innumerable serious mistakes that may result from misunderstood verbal orders, or illegibly written ones.

An interesting hospital diary that covers an experience of many years recounts some funny, some pathetic, and some tragic instances resulting from such mistakes, but it seems unnecessary to quote these, as anyone familiar with hospital work can draw on their own experiences. So, in the interest of "safety" for the patients, one is forced to the conclusion that with the exception of extreme emergencies, when time is at a premium, verbal orders have no place in hospital work. And even though verbal orders are accepted in emergencies, they should later be printed in the regular order book. And please note the word *printed*, because modern handwriting tends to become more and more illegible. Nurses are required to print all their charts and records, and testify that it is comparatively easy to acquire skill and rapidity in printing.

If it is essential that nurses' records should be printed in order to make sure that they will be legible, how much more necessary it is in the case of doctors' orders, where a misinterpretation of illegible handwriting may spell death to the patient!

HONORED FOR HER WAR SERVICE

Miss Mary E. Gladwin, an enrolled Red Cross nurse, has recently received an honorary doctor's degree from Buchtel College, Akron, Ohio, from which she was graduated. This degree was conferred in appreciation of her Red Cross work in The World War.

Before the late Miss Delano was appointed to the position of Chairman of the National Committee on Red Cross Nursing, Miss Gladwin was associated with her in Red Cross work in New York. She also served as chief nurse in the Dayton, Ohio, flood in 1913.

When the World War began, Miss Gladwin was sent with the Red Cross Commission to Serbia, where for three years she acted as supervising nurse. In addition to her other duties she did relief work among the women and children of Belgrade. In 1917 she went to Salonica, Macedonia, as a special representative of the Serbian Hospitals' Fund, to receive supplies and distribute them, and to investigate and report on the needs of civil and military hospitals and on relief work being done.

DISPENSARIES AND OUT-PATIENT DEPARTMENTS

Conducted by MICHAEL M. DAVIS, JR.
Director, Boston Dispensary, 25 Bennet St., Boston

NEW YORK DISPENSARIES; BOOK AND RECORD KEEPING*

(d) *The Clinic Secretary or Executive.*—No matter how carefully records are devised, and no matter how earnest an effort is made to see that physicians keep records properly, the physician in a busy clinic must many times decide whether he will see few patients and make careful records of a few cases, or see a large number and give less consideration to the records. Where clinic physicians find it difficult to keep the records deemed necessary, the services of a clinic secretary or executive are highly desirable.

The duties of a clinic secretary or executive may be outlined as follows:

1. To see that as little time as possible elapses between patients, so that waiting time for both physician and patient is minimized.

2. To assist in the recording of information, and see that all information required for the record is properly supplied. All information necessary for identification, if not already secured at the admission desk or social service department, can be recorded by the secretary; the patient's history can be taken by the secretary, and at the dictation of the physician, notes of physical examination can be taken. It should be the secretary's duty to see that records of all tests of laboratory or x-ray are made; that the diagnosis of the physician is entered, and finally that the results are recorded.

3. To arrange for transfers from clinic to clinic, for consultations or reference, etc., and to make record of these facts.

4. To make appointments for the physician and to see that patients keep these appointments; in other words, to insure that the patient continues treatment until discharged.

5. To see that the patient receives such oral or printed instruction as is necessary on leaving the clinic.

6. To relieve the physician of unnecessary interviews with nurses, patient's family, and social workers, and of correspondence to other medical men, hospitals, relief societies, etc., so that his time may be conserved for patients exclusively.

Although not all of these duties are concerned exclusively with the keeping of records, yet only by the removal from the shoulders of the physician of the petty annoyances with which he of necessity meets in his dispensary work will he be able to meet the requirements for full and exact records and to confine himself undisturbed to medical work.

*The second and final section of the chapter on Book and Record Keeping of the report made by the Public Health Committee of the New York Academy of Medicine on the New York Dispensaries.

The clinic secretary plan is employed in several dispensaries of New York City where nurses are assigned to assist physicians in recording information; but only in the Post-Graduate Hospital Dispensary have specially designated clinic secretaries or executives been employed, and there only in two large clinics. The plan is so successful in these clinics, however, that it will probably be extended to other departments in the near future. Not all clinics in all dispensaries will require such service. Whether or not a special executive is needed depends upon local conditions. The tremendous possibility, however, of eliminating time lost in dispensary by delays, broken appointments, etc., and of keeping up the contact of physician and patient until the physician's work is done, certainly warrants the more general adoption of this procedure. From the standpoint of record keeping, it is impossible to say too much in favor of such a plan.

As regards the qualifications of clinic secretaries or executives, it would seem desirable to select women who have had some experience in social work, as well as in record keeping. If the person so selected is able to use a typewriter and take dictation stenographically, so much the better, for then records can be made on the typewriter, thus permitting greater ease in reviewing them, and more facility in filing them. This, however, is not essential. The same sympathetic courtesy and business-like habits as are required in the office of registrar should be required in the office of clinic secretary or executive.

The use of volunteer workers as clinic executives is suggested as a possibility. The intelligent woman can, with brief training, perform the duties of clinic executives very satisfactorily, as has been demonstrated in several instances, and such work would provide very valuable preliminary experience for the woman who wishes to enter the medical or other branches of social service. Arrangements could no doubt be readily made with the training schools for public service and social work, as well as with other institutions, to supply volunteers as required. No better way of entering the field of practical social work could be devised for students of medical problems.

(e) *The Dispensary Report.*—For the purposes of a report of dispensary work, records must of course be in such form as to lend themselves readily to recapitulation. The essential factors of a dispensary report for a given period, exclusive of financial data, are:

1. The number of new patients received, segregated according to clinics to which assigned, and as corrected by later transfers;

2. The number of applications rejected and reasons therefor;

3. The number of revisits of patients, similarly segregated by clinics;

4. Classification of patients by age, sex, social, state, economic status, race and occupation;
5. Classification of patients by diagnosis according to a standard system of nomenclature;
6. Classification of patients as to application for treatment under Workmen's Compensation Act, segregated according to nature of employment, nature of injury, period of treatment, cost of treatment, amount received for treatment;
7. Summary of laboratory and other diagnostic tests made, segregated according to nature of such tests, and as to clinics for which made;
8. Summary of number of cases treated by the social service, by problems and results attained; and
9. Summary of medical treatment of patients, including total number of patients treated, segregated according to period remaining under treatment; number of patients discharged, and the result on discharge, and the number of patients who left without proper discharge.

Although all of the above facts are essential in determining the achievements of a dispensary, no dispensary report reviewed has been found to contain this information. Relatively few dispensaries report how their dispensaries are segregated by clinics, so that it is impossible to determine the need for certain special clinics. Few show in their reports all the facts as to age, sex, social status, race, and occupation, although all of these are important in determining the dispensary's problem. Rarely is any tabulation made of the reasons for rejection of applications to dispensary, although if these reasons were based on accurate information they would furnish very valuable data. Even the reports of the Presbyterian and Mount Sinai Dispensaries, which are otherwise quite complete, give no information other than the general segregation of patients by clinics. Even the New York Hospital Dispensary, which has a very well developed department for the handling of compensation cases, gives little information in its report regarding the work of this department and its relation to the dispensary problem. In no dispensary report seen, is it possible to obtain accurate and complete information as to the use made of laboratory facilities, the use made of social service departments, and the nature of social service problems, or the end-result of the treatment of the patient.

All of this information can be readily obtained and classified. If such information were furnished uniformly by all dispensaries, it would be possible to form an idea of the work of individual dispensaries, and to compare such work; it would be possible, also by combining such reports, to form an idea of the sickness problem of the city and how it is being met by dispensaries. A consolidated annual report of dispensary work in the city of New York, based upon uniform record keeping procedure and issued by an organization like the Associated Out-Patient Clinics would go far in directing the future development of dispensary service. Instead of continuing to develop new services without real understanding of the problems to be met, it would be possible to develop service on a basis of proven needs.

(f) *Registration of Patients.*—The record system is an important feature of organization. The principles of record keeping, filing, and supervision have been discussed above. The remaining part of this chapter is devoted to the discussion of the types of records now used in connection with the discharge of dispensary work.

At the Post-Graduate Hospital Dispensary and at the Hospital for Deformities and Joint Diseases, a system of registration of patients has been worked out which acts as a check upon the fees received, and at the same

time registers the total admissions, new visits and revisits, classifying them according to the clinic to which assigned. A brief description of the procedure at the Post-Graduate may be of interest.

There are two registrars, one for new patients and one for old patients, each having her own wicket. Each registrar is supplied with a series of books, one for each clinic. The pages of these books are made up of small printed slips, perforated, so that they may be torn out, leaving a stub record. All slips are serially numbered, and the stubs bear the same numbers as the slips. Each slip has printed upon it the name of the clinic, the admission fee, the serial number, the date, a blank for the insertion of fee for medicine, and the advice "Return this Check to the Doorman at Exit." Similar slips are provided for free cases, except that they are stamped "Free." As these slips are serially numbered and the stubs correspondingly numbered, the difference between the numbers of the first slip issued and the last slip issued on a given date gives the number of admissions for each clinic, and since there are two registrars, one for new visits and one for revisits, new cases and revisits are separately recorded.

The patient is then given a clinic card and details for the clinic. When he leaves the dispensary he is required to pass through a gate presided over by a doorman, and drop the slip previously mentioned in a locked box, unless he has a prescription to be filled. In the latter event, he takes his slip and the prescription to the druggist at another gate, where the druggist gives him the prescription, collects the charge therefor, and notes the charge upon the slip. When the slips are collected from the locked box, and from the druggist at night, the total receipts at the admission desk and at the druggist's window are shown. The registrars' books must show correspondingly numbered stubs for all patients, and the amount of money in the possession of the registrars must coincide with the amounts represented by the number of slips not printed "Free." The amount of money turned in by the pharmacist must equal that indicated upon the slips, which may be further audited by the prescriptions on file.

(g) *Admission of Clinic Card.*—The usual practice is to have a different clinic card for each clinic, showing the names of the physicians, and the days and hours of clinics. The clinic cards are frequently of different colors, which indicate either the nature of the clinic or the service. Of all the clinic cards examined, that at the Cornell Clinic is the most practical. Here one form is used for all patients, no matter to what clinic assigned. This card, which is 4½ by 2¾ inches in size, has on its face at the left in a column, the list of clinics, to the right of which there is space for the insertion of the department number of the patients,—patients at Cornell Clinic being numbered serially by the registrar and also by each clinic. To the right of this space is a place for the registration number of the patient and his name. On the back of the card is printed advice regarding the use of the card, the clinic fee, hours of various clinics, and the penalty for false representation. This clinic card has the advantage of reducing cost through reducing the amount of printing required, and it further has the advantage of showing all of the various clinics to which the patient may have been referred by original reference or transfer.

The registration index card kept by the registrar is identical with this card, except that it contains in addition to the name of the patient, his address, age, sex, occupation, and his "representation" or economic condition statement. The registration card combines, therefore,

the usual "representation" card with an index card which shows to what clinics the patient has been assigned during his dispensary career.

(h) *Record of Transfers.*—The method of indicating transfers from clinic to clinic on the patient's clinic card and on his index card also, as above mentioned, has the advantage of giving ready reference when all histories bearing on the particular case are desired by a physician. By reference to the patient's clinic card he is at once informed as to the other clinics in which the patient may have been, and the serial numbers of histories in such clinics.

Under the ruling at Cornell that the patient must return to the admission desk with his transfer slip, the registrar is able to correct his registration cards accordingly, and his daily summary shows all such transfers.

It is believed that similar procedure of recording transfers might be adopted to advantage by other dispensaries.

(i) *Follow-Up Record.*—In several of the clinics studied a very ingenious file of follow-up records is maintained, which at a glance gives for each case a record of attendance in the clinic. This record calls for the name, age, out-patient department number, address, physician in charge, social worker concerned, and diagnosis. Space is provided for each day of each month—a record for an entire year. The back of the card is blank, but used for notes regarding attendance. The date when the patient is to return is marked by a diagonal line in the square representing the date. When the patient comes, a transverse diagonal line is drawn. If he fails to come, the clinic secretary, nurse or social worker, by looking at the card, can easily discover the fact. The cards are filed by the days on which patients are supposed to appear at the clinic.

(j) *Family Income Records.*—At the Lebanon Hospital Dispensary a registration record is kept relative to the economic status of the new patient and his family, which goes somewhat farther than the ordinary "representation" card which patients are required to sign when there is doubt as to their ability to pay. This record requires the following information: date, name, address, nativity, age, religion, married, social state, occupation, rental number in family names and occupations of members of family, total family income, clinic to which assigned, name of physician-in-chief of clinic, and the following statement which the patient is required to fill in and sign:

"This is my.....application to this dispensary in the year..... I have not been an applicant to any other dispensary during the year, except the following (space for exceptions named).

Signature

This card, though at times inadequately filled out, does give some very valuable information relative to the economic status of every patient and gives the clue to further investigation. The record of names and occupations of other members of the family, rental, and total family income, are particularly valuable to the Social Service Department.

(k) *History Records.*—Three principal types of history records were seen in the dispensaries studied. The first type, which may be called the primitive type, is the record book, in which all histories are entered in chronological order. Such record books are kept at the New York Dispensary and at the Hospital for Ruptured and Crippled Dispensary, and the history record is always exceedingly laconic. The second type is an individual history, a record sheet being used for each patient, irrespective of the department of the institution. This practice was found in several institutions. In most instances certain clinics

prefer keeping their records in bound books, while the rest of the institution is using the individual history sheet. The third type of record is also an individual record, but not uniform for all clinics. Each clinic has a special form designed to meet its own particular requirements. Such records are seen at Mount Sinai Hospital Dispensary, Cornell Dispensary, New York Dispensary, Post-Graduate hospital Dispensary, St. Luke's Dispensary, and in fact, in the majority of the larger dispensaries.

As regards the form of history records, the individual record is certainly to be preferred to the book record, because it affords more space and can be more easily used for reference. Cards are preferred to history sheets in the majority of dispensaries because they are more easily indexed and renewed, and less liable to damage in handling. At the Presbyterian Hospital Dispensary the system of "unit history records" requires that the dispensary record shall be on a sheet of paper uniform in size with sheets of the hospital records, so that all can be bound together in one volume.

This unit system has much to commend it, and could, it is believed, be adopted by many of our large hospital dispensaries to advantage. It guarantees uniformity and thereby promotes economy and efficiency in record keeping, and it enables physicians and others to review in one volume all information regarding a patient who has had both hospital and dispensary care—a decided advantage to an inquisitive physician, interested in a case.

For general dispensary use under existing conditions the card record would seem to be most satisfactory for filing and reference purposes. A card 5x8 inches is favored by most dispensaries, as this is a standard stock size card and provides space enough for a very complete record. Whether or not the card record should be uniform for all clinics is a question. The analysis of history records in the various dispensaries shows that in order to obtain satisfactory records, the record must call for certain definite information and some detail; otherwise, physicians use their own judgment in determining how much information they will supply.

A good type of the uniform history record, which serves as a guide, and yet does not go into details, is illustrated by that of the Polhemus Clinic, where a uniform card record is used, which calls for the following information: clinic, date, diagnosis, name, residence, clinic number, occupation, age, sex, color social state and nativity; and indicates the headings of the various features of the history as follows: I. Family history; II. Previous personal history; III. Present trouble; IV Status praesens. Physicians in the Polhemus Dispensary are required to follow this outline in writing histories. At the Mount Sinai Hospital Dispensary the card record used provides a special form for each clinic. These cards are for the most part uniform in size but uniformity in size is not invariably insisted upon.

At the New York Hospital Dispensary a uniform history sheet of four pages is used, which calls for the necessary identification data and then provides simply a blank space for history writing. A similar form is used at the Vanderbilt Clinic, a uniform four page folder being used for the majority of clinics, but varied in certain special clinics, such as neurology, applied therapeutics and genito-urinary diseases. At St. Luke's a similar four-page sheet is used, which varies for each clinic according to the special information needed by such clinic. This history sheet is perhaps the best example of the individual history sheet, uniform in size and general arrangement, varying in requirements for each clinic.

At the Clinic for Speech Defects, the history record

form and method of use are unique and combine basic uniformity of record form with detailed requirements for the various clinics. At this institution the history record form is simply a sheet of paper on which is mimeographed the necessary identification data. Each clinic is furnished with a stock of these forms, together with a typewritten statement of the information which must be secured in each clinic. This procedure obviates the need for special printing and at the same time provides for detailed records in all special clinics.

Similar procedure could be followed to advantage in many other dispensaries, using a basic uniform card 5x8 inches in size and printed in blank for the necessary data of identification. Each clinic should be furnished with an outline in detail of the information to be obtained and the method of recording it. This would do away with much unnecessary printing, would permit changes to be made without expense, and would be quite as efficient in obtaining the required information as the very expensive record forms printed especially for each clinic, as is the custom in some institutions.

HEALTH IN BUSINESS

A business man walked into a doctor's office the other day. He looked in the pink of condition.

"I want a thorough physical examination," he said.

The doctor accommodated him. Heart was sound, kidneys and all other organs functioning properly.

"You're the most splendid specimen I've seen in a long time," said the doctor.

"Thanks; I intend to remain so," said the client. "You shall go over me like this every six months. And I propose to have every man in a responsible position in my organization undergo a similar examination twice a year.

"A competing firm recently put a man into an important job who looked as well as I do. He broke down, and in the demoralization of the firm's business that came with his breaking, our firm has taken over one of their biggest and best accounts. A condition of twenty years' standing, which he thought completely overcome, caused that man's breakdown.

"I don't propose that my firm shall suffer through any such experience."

Cold, hard business applied to health. Doesn't personal interest recommend to every man such prudence?

How many men can you recall who have discovered a serious state of health too late to mend?—*Haverhill Gazette*.

DEFECTIVE TEETH AMONG SCHOOL CHILDREN

The New York Association for Improving the Condition of the Poor has just completed the recent examinations conducted among 1,382 school children of the lower East Side of New York, ranging in ages from four to fifteen years of age. Ninety-seven per cent had defective teeth, 9,307 cavities being found. There was a great deal of decay in the first permanent molars of the children—a fact that has led the A. I. C. P. to hasten to follow up the survey with prophylactic and curative measures.

UNIQUE MEDICAL INSTITUTION IN BUCHAREST

The amazement of German army doctors who found in Bucharest perhaps the most modern and best equipped medical research bureau in existence has been rivalled by

the surprise of American Red Cross doctors, who have found at this institution wonderful opportunities for study. The Institutul Medice Legal, as it is called, was established as a morgue by the government in 1894, but it has undergone constant and careful development, and a trip through its spacious classrooms, lecture halls, amphitheatre, museum, radiograph department, dissecting rooms, criminology bureau, and department of photography is a revelation to medical men from foreign countries.

Students from the medical college attend classes at the Institutul on Thursday and Saturday afternoons of each week. Lecture halls and classrooms are well lighted and thoroughly equipped. The amphitheatre, finished in white tile, has a wide balcony extending around all four sides for the accommodation of students. The museum contains many thousand specimens preserved in alcohol. The radiograph room has two machines of the latest type. Two dissecting rooms in the basement contain a complete equipment for performing autopsies.

The institution handles on an average of 7,500 bodies a year, as compared with 600 before the war, and the department of criminology, equal in point of detail to the famous Bertillon method, enables the authorities to determine whether or not a man killed under suspicious circumstances had a criminal record.

In the majority of instances the bodies brought in are claimed by relatives or friends before the expiration of twelve days, when interment is made at public expense. Facilities for preserving a body by means of a modern method of refrigeration pending its recognition by relatives or friends are provided, and are so highly perfected as to permit its retention, if necessary, over an indefinite period. When bodies are unidentified and unclaimed after a period of twelve days, a photograph is taken and filed away for the possible enlightenment of those searching for missing friends or relatives. An automobile truck donated by the American Red Cross, is now being used in hauling dissecting material.

WHERE HOSPITALS ARE SUPPORTED BY LOTTERIES

In the Dominican Republic all the hospitals are supported by lotteries. Evidently the lottery business has not been overflourishing, for some of the hospitals are running at one-third of their capacity, according to the medical survey of that country recently made by the American Red Cross.

The Red Cross is going to help the Sanitary Department of the Dominican Republic to clean up the country. The Secretary of State for Sanitation and Beneficence is a Navy Medical officer, Reynolds Hayden. One of the most important measures already undertaken is the establishment of twelve dispensaries for the treatment of venereal diseases. Medical facilities have been totally inadequate, there being only one physician for every 8,700 people. The Red Cross plans to send enough equipment to bring the Municipal Hospital in Santo Domingo City up to standard, and will pay the salaries of a chief nurse and assistant for a year so that they may start a training school for native nurses. A doctor will also be sent to administer the little hospital in the town of Seybo, in the Southeastern Province for a year. A donation of \$2,400 will be made to the Dominican Chapter of the Red Cross for the maintenance of the Seybo hospital.

Road-building, sanitation and education are the most important needs of the country. When it came under the military government of the United States, there were only 5,000 children in the schools; now there are 100,000.

DIETETICS AND INSTITUTIONAL FOOD SERVICE

Conducted by LULU GRAVES

Temporary address, 22 E. Ontario St., care of The Modern Hospital*

USE OF YEAST FOODS IN BREAD MAKING

JOHN PHILLIPS STREET, Former Chemist, Agricultural Experiment Station, New Haven, Conn.

Incidental to a study made by the writer on the composition of bakers' bread, the subject of the use of the so-called "yeast foods" in the baking of bread was taken up with much experimental detail. Certain sensational food officials and newspapers that cared little for the truth have given the public an entirely false impression as to the reasons for the use of these products, and their relative advantages and disadvantages.

These products are of two general classes: the malt preparations (extracts or flours), and the compounds which are alleged to supply to the yeast certain nutrients, which either stimulate it or, by supplying particularly suitable food, increase its activity.

Five malt extracts, four malt flours, and five samples of yeast food were analyzed. These were as follows:

Malt Extracts

Diamalt, The American Diamalt Co., Cincinnati, O.
Malt Extract, Freihofer Baking Co., Philadelphia, Pa.
O. P. Malt, Malt-Diastase Co., New York.
Roloceo, The Corby Co., Washington, D. C.
Malt Extract, Manufacturer unknown.

	Diamalt	Freihofer	O. P. Malt	Roloceo	Malt Extract
Alcohol, by volume.....	3.20	3.20	5.20	x	x
Extract	75.41	75.72	74.42	76.92	76.92
Ash	1.47	1.63	1.85	0.87	1.83
Protein (N x 6.25).....	5.63	7.63	6.75	3.44	6.44
Sugar solids—glycerin	68.31	66.46	65.82	72.61	68.65
Direct reducing sugars, as dextrose	41.70	41.02	40.04	x	x
Dextrin	21.05	22.04	20.78	x	x
Glycerin	0.12	0.12	0.12	x	x
Diastatic power (degrees Lintner)	62.5	105	74	x	x

x Not determined.

These samples are quite similar in composition, although the Freihofer sample showed a somewhat higher Lintner value than the other two brands tested.

Malt Flours

Diasto Dry Malt, Chas. E. Mechel, Milwaukee, Wis.
Malta, The Cabell Co., Baltimore, Md.
Malzo, Advance Malt Products Co., Chicago, Ill.
Plymeo, Plymouth Milling Co., LeMars, Ia.

	Diasto	Malta	Malzo	Plymeo
Water	6.02	7.91	9.94	11.15
Ash	2.21	2.34	1.63	0.36
Protein (N x 6.25)	15.38	14.81	14.06	8.94
Ether Extract	2.51	2.62	2.12	0.55
Fiber	2.02	2.17	0.99	0.08
Nitrogen-free extract	71.86	70.15	71.26	78.92
Starch	44.38	46.01	48.60	72.17
Diastatic power	high	high	high	very low

The first three brands are very similar in composition, and all of these showed high diastatic power. Plymeo is

a very different preparation both as regards composition and diastatic activity, the latter being extremely low.

Yeast Food

Arkady Yeast Food, Ward Baking Co., New York.

	No. 1	No. 2
Water	5.99	5.58
Ash	49.45	48.47
Protein (N x 6.25)	4.75	4.38
Carbohydrates	36.34	38.08
Fat	0.38	0.38
Ammonia	3.09	3.11
Potassium bromate	0.298	x
Calcium oxid	9.64	x
Sulphuric anhydrid	13.31	x
Sodium chlorid	present	present

Three other samples contained 5.41, 5.37, and 6.52 per cent of moisture. The formula of this preparation as given by the manufacturer is: calcium sulphate 25.0, ammonium chlorid 9.7, potassium bromate 0.3, sodium chlorid 25.0, and patent wheat flour 40.0. Our two analyses satisfy this formula in all respects.

Baking Tests

The magnitude of the subject made it necessary for the writer, in his preliminary studies, to limit his attention to a study of the effect of Arkady Yeast Food,—this seemed the most important, as this product had been specifically attacked, both because of the purposes of its use and because of the alleged objectionable mineral ingredients it introduces into the bread. It was selected for study also because it represents a distinct type of these foods (*i. e.*, it is largely a mineral food); and because no question has been raised as to objectionable ingredients being introduced by malt extracts or malt flours.

Batches of dough ranging from 78 to 709 pounds were prepared under strict supervision either of the writer or some other official authority; in one series the baker's regular formula was used, and in the other Arkady was introduced, the amount of sugar, salt, yeast, and generally, flour being reduced. The weighing of all the ingredients was supervised, as well as that of the dough during its various stages, and that of the finished bread. Samples of the various ingredients and the baked breads were taken for analysis. Every precaution was taken to avoid mechanical loss during the tests, the loaves being molded by hand and a record being kept of the weight of dusting flour used.

Twelve tests were made, seven in a New York bakery, two in New Haven, two in Indianapolis, and one in a Government barracks bakery; over 5,000 loaves were baked. No attempt was made to dictate the baking formula used, so we have formulas representing the practice in a large wholesale bakery, in two smaller high class bakeries, and in a barracks bakery. In every case modi-

fications of the regular formula were made necessary in the Arkady dough because of the use of that ingredient.

In every test the Arkady breads showed the lesser loss in dry matter, ranging from 0.68 to 13.16 pounds, while in the breads without Arkady the losses were from 1.34 to 21.01 pounds. The percentage loss of dry matter in the Arkady breads ranged from 0.53 to 3.25; in the others from 2.41 to 5.12. The tests showed that not only did Arkady conserve the dry matter of the dough by decreasing the losses attendant upon fermentation, but that an actual saving of original ingredients was secured without in any way decreasing the food value of the bread. On the basis of 1,000 1.5-pound loaves of bread, the use of Arkady caused a saving of 9.5 pounds flour, 4.2 sugar, 1.2 salt, 5.8 yeast, and 0.4 pounds Roloco. On the other hand, the Arkady bread contained 4.9 pounds of Arkady not used in the other breads. In addition to the above, 16.63 pounds of the dry matter of the dough was saved. It is apparent, therefore, that the use of Arkady results in a distinct conservation of food materials.

Two other questions arise, however, in this connection, viz., is this conservation secured at a sacrifice of quality in the bread, and does the use of Arkady introduce into the bread any objectionable ingredients? These important questions will now be discussed.

Composition of the Breads

The criticism has been made that Arkady enables the baker to use a lower grade of flour, and that in reality the main role played by its mineral salts, particularly the potassium bromate, is that of bleaching agents. Experiments, however, showed that potassium bromate improves the baking qualities of flour in general, but the higher the grade of the flour used, the greater is its effect. A loaf of finer texture and color follows its use, but such a result obviously is one of the main purposes of leavening bread. Ammonium chlorid gave similar results, that is, its effect was less when used with a low grade flour than with a high patent, indicating that the ash ingredients of the lower grade flours provided sufficient mineral food for the yeast, and that the use of Arkady with a flour of this type was not advantageous.

It has been claimed that Arkady increases the water-holding power of the dough and that a more moist bread results—in other words, that its use permits the baker to market excess water as bread. The analyses given below show the contrary to be the case. In only two of ten tests did the Arkady bread show more moisture than the other, the average moisture content of the non-Arkady breads being slightly higher, 0.39 per cent. Not only did the Arkady breads contain less water, but they also contained slightly more of each of the food nutrients. Experiments made elsewhere, furthermore, demonstrated that this increased food value was not secured at the sacrifice of digestibility.

	Non-Arkady Bread	Arkady Bread
Water	36.44	36.05
Ash	1.43	1.46
Protein (N x 5.7)	7.65	7.81
Carbohydrates	52.50	52.68
Ash	1.98	2.00

The Role of the Mineral Salts

The Arkady process was developed from observations that breads made at different bakeries by the same process, and the same formulas and baking ingredients, showed marked variations in flavor, texture, and quality. Careful investigations pointed to the different waters

used as the source of the difference; the varying amounts of inorganic salts contained in these waters were the determining factor. The effect of the composition of the waters used has long been known in the brewing industry, and it is also well known that yeast needs certain mineral salts for its proper development and growth. Experiments by Kohman and Hoffman showed that small amounts of calcium sulphate, ammonium chlorid, and a trace of potassium bromate gave the best results, and that a combination of these salts in the proper proportion worked better than any of the salts by themselves. Their experiments seem to demonstrate that calcium sulphate stimulates fermentation and increases the gas production, that the ammonium chlorid is used directly as a food by the yeast, though practically none is found as such in the baked bread, and that the potassium bromate has a marked effect in maturing the gluten.

Appreciating the reasons for the use of these mineral salts, it is important, however, to learn what is their fate in the baked bread and what effect, if any, they have on its wholesomeness.

Calcium Sulphate

Lime and sulphate were determined in all of the breads. As was to be expected, in every instance the Arkady breads contained slightly more of these two mineral ingredients. The non-Arkady bread averaged 0.020 and the Arkady 0.046 per cent of lime, with 0.059 and 0.085 per cent of sulphate, respectively. In other words, the non-Arkady breads contained 0.079 and the Arkady 0.131 per cent of calcium sulphate. The amount of lime even in the Arkady breads is still only about one-tenth of the amount recognized as necessary in our daily diet. Many of our common foods are deficient in lime, and while the slightly increased content in the Arkady breads probably has little practical significance, its effect, if any, would be beneficial rather than injurious. The claim that the sulphate in Arkady is used in bread for the purpose of a make-weight is obviously false and absurd.

Ammonium Chlorid

Although the manufacturer claims that the ammonium chlorid of Arkady is completely utilized by the yeast, our experiments showed that while most of the added ammonium chlorid does not appear as such in the finished bread, still the Arkady bread contained slightly more than the non-Arkady, the average percentage being 0.0051 as compared with 0.0014. This small increase, however, is entirely without significance and can have no possible deleterious effect on the wholesomeness of the bread. In fact, many of our well known foods contain ammonia in far greater amounts than Arkady bread, for instance, Mammala 0.0182, Horlick's Malted Milk 0.0185, Nestlé's Food 0.0061, Eskay's Food 0.0076, Camembert cheese 0.1239, canned lobster 0.0874, ham 0.0365, buttermilk 0.0337, Swiss cheese 0.0090, and American cheese 0.0056 per cent.

Potassium Bromate

It is claimed that the potassium bromate is broken up in the fermentative processes of the yeast and in the baking process, and that whatever bromin is left in the bread is in the form of potassium bromid. Our experiments, not entirely completed, seemed to sustain this claim. The amounts found in the bread were extremely small, the average content of the non-Arkady bread being 0.29 and of the Arkady 0.58 part of bromin per 100,000 parts of air-dry bread. Such very small amounts of bromin as bromid would be without physiological effect. Moreover, the fact has been recently brought out that bromin is much more widely distributed in nature than has usually

been supposed, and that many of our common foods contain it in appreciable amounts. We determined bromin in a number of foods by the same method as was used for the breads, with the following results:

Parts of Bromin per 100,000 parts of Air-dry Substance.	
Table salt	6.27
Fresh Codfish	3.00
Salted Codfish	1.50
Celery	0.75
Parsnips	0.75
Haddock	0.50
Cabbage	0.50
White Potatoes	0.40
Gluten Biscuit	0.35
Post Tavern Special	0.35
Gluten Bread	0.30
Borden's Malted Milk	0.25
Brown Rice	0.25
Corn Meal	0.25
Canned Lima Beans	0.25
Canned Kidney Beans	0.25
Beets	0.25

All of the above results, as well as those secured in the breads, are doubtless slightly low, owing to the difficulties of the method, but the results are at least comparative.

The above summary of our experiments shows that by the use of Arkady the baker not only is able to save flour, yeast, sugar, and salt, but to secure a bread of slightly higher nutritive value, of finer texture, flavor and quality. The traces of added mineral salts found in the finished bread are entirely without physiological significance, and if their presence has any effect, it is a beneficial one.

TUBE FEEDING IN THE INSANE HOSPITAL

By L. D. HUBBARD, M.D., St. Elizabeth's Hospital, Washington, D. C.

Forced feeding is so frequently necessary in the care of the mentally unbalanced, that it often becomes a mere matter of routine order, without attempt to adapt the diet to individual needs. In the ordinary run of cases the usual milk, egg, and salt feedings are perfectly satisfactory, and the patient either remains at his original weight or even gains a few pounds. Those cases, however, in which the physical condition of the individual shows positive indications requiring special diet present a serious problem for the physician already overrun with the duties incumbent upon an officer in a large institution. The planning of a special diet in a form suitable for tube-feeding is a time consuming matter, even with the assistance of a book of values. This manual was prepared with the idea of enabling the busy physician of a large institution to feed his tubed patients with the maximum efficiency and the minimum expenditure of time and energy.

Indications for Tube-Feeding

Although a valuable measure in itself, tube-feeding should never be resorted to until all possible methods of urging and coaxing have been tried. It frequently happens that patients refuse food for the same reason that well people do,—they do not like it. A little attention to seasoning and serving will produce the desired result without the inconvenience and discomfort of the nasal tube. Some patients will refuse one kind of food and take others; other patients will refuse certain meals and eat others. Only after a forty-eight hour fast should the tube be used, unless the patient is dangerously emaciated. Reasons for such delay are numerous. At best the procedure is uncomfortable and, unless carefully done, may be very painful. In the case of catatonic patients, they frequently make no protest, and prefer to have their hunger satisfied in that fashion rather than trouble themselves to swallow when fed. A tray should be offered the patient at every meal hour and he should be made to understand, if possible, that if he makes an honest effort to eat, though he does not clear his plate, the tube will not be used on him. If no food is eaten for two weeks, the tube feedings should be omitted for a day unless the patient is losing weight, in order that he may have a chance to become hungry.

Each tube-fed patient should have a separate tube marked with his name, and the apparatus should be ster-

ilized after each feeding. Tubes should be selected to fit individual patients, in order that the operation may be performed with the least possible discomfort to the patient; it should be small enough to pass easily through the nose and large enough so that the liquid will run through with a reasonable amount of speed. A tube should never be used after it has become soft, as it is liable to bend in the pharynx and pass down the oesophagus doubled, thus preventing the flow of liquid into the stomach.

When possible, it is well to have the tube thoroughly chilled in a dish of ice a few moments before the feeding, as it is not so apt to gag the patient when cold. It should be thoroughly greased along the entire length, preferably with oil, as vaseline soon ruins the rubber.

The feeding should be warmed to a temperature slightly above that of the body. The quantity should not exceed twenty-four ounces (three glasses), but two and a half glasses is the amount usually given. Patients differ in their stomach capacity and the amount should be adapted to the individual case. After prolonged fasting the stomach may contract to such a size that it can accommodate only a few ounces at a time. A half glass of water should be given at the beginning of every feeding, and any desired medication should precede the food. Fruit juice to the amount of two or three ounces given once a day is valuable in regulating the bowels, and must precede the regular feeding.

The patient may be tubed lying or sitting, as is most convenient, the important point being to avoid forcing the tube into the trachea. The tube may be passed either through the mouth or through the nose. If the oral method is used, great care must be exercised to prevent the patient from biting off the tube and also to avoid breaking the teeth. This may be safely accomplished by using a well padded mouth gag and inserting it behind the teeth. In using the nasal method the mouth should be held tightly closed and the head tipped slightly backward. Holding the tube between thumb and forefinger like a pen, it should be pushed gently past the turbinates, and as it reaches the pharynx the patient should be urged to swallow. Unless the tube be introduced into the stomach there may be difficulty in getting the liquid started. The distance from the cardiac orifice to the teeth is approximately forty centimeters, and stomach tubes often have a mark at this distance from the end. If it is pushed too far the end may curl upon itself and shut off the flow. When the patient coughs or struggles violently instead of swallowing, the tube may be passed through the larynx; the breath will be immediately heard and felt at the funnel, the sound resembling that heard from a tracheotomy tube. Any uncertainty may be settled by inverting the funnel momentarily in basin of water and watching for bubbles. Stomach gases should be allowed to escape before feeding is begun.

Once the liquid is started down the tube, it should be poured without interruption (unless the tube is pinched), so as to prevent the formation of air bubbles. If such accident occurs the flow will cease until the bubbles have been moved on by pinching the tube rapidly a number of times. It is a good plan to hold the funnel in the palm of the left hand, thumb and first finger ready to pinch the tube, thus leaving the right hand free to hold the pitcher from which the food is poured. Thus any attempt on the part of the patient to regurgitate through the tube may be checked immediately.

After all the liquid has passed through, the tube should be pinched tightly to prevent the escape of remaining liquid into the pharynx, mouth, or clothing, and with-

drawn rapidly, in order not to irritate the pharynx longer than necessary. If nasal feedings are continued for some time, the consequent irritation may be allayed by the daily application of a 10 per cent solution of argyrol.

Formulae

The formulae appended have been prepared for the purpose of enabling the physician to adapt the diet to the patient's individual needs as nearly as is possible with the means at his disposal. They are arranged with numerous variations of carbohydrate, fat, and protein content to meet various digestive or metabolic abnormalities, and range from the simplest ingredients to more elaborate diets. It has been found advisable in some cases where a highly varied diet was advantageous to use a different formula at each feeding. Two feedings a day are usually sufficient, but a third may be added if emaciation is extreme.

Vegetables are used in the form of a puree and may be thinned with a little water. Stewed fruits should be rubbed through a fine sieve.

Values used in this paper are taken from Edwin A. Locke's "Food Values," D. Appleton & Co., 1917.

REGULAR DIETS—I.

	Amount		Protein	Carbo-hydrate	Fat	Calories
Milk	3 xx	2 1/2 cups	18.15	27.50	22.00	392
Eggs	ii	2	13.40	...	10.50	152
Butter	1 ball	1 ball	.15	...	12.75	119
Sugar	3 i	2 tbsp	...	60.00	...	246
Total	..	..	31.70	87.50	45.25	909

II.

	Amount		Protein	Carbo-hydrate	Fat	Calories
Malted Milk	3 xvi	2 1/2 cups	24.25	52.95	25.30	552
Eggs	ii	2	13.40	...	10.50	152
Butter	1 ball	1 ball	.15	...	12.75	119
Sugar	3 i	2 tbsp	...	60.00	...	246
Total	..	..	37.80	112.95	48.55	1069

LOW PROTEIN DIET—I.

	Amount		Protein	Carbo-hydrate	Fat	Calories
Milk	3 xvi	2 cups	14.52	22.00	17.60	314
Farina	3 i ss	3 tbsp	3.30	22.90	.42	112
Sugar	3 i	2 tbsp	...	60.00	...	246
Olive Oil	3 ss	1 tbsp	...	13.00	...	121
Total	..	..	17.82	104.90	31.02	793

II.

	Amount		Protein	Carbo-hydrate	Fat	Calories
Stewed Apricots	3 iv	1/2 cup	2.13	54.66	1.46	246
Cream	3 iv	1/2 cup	2.96	2.84	20.56	216
String Beans	3 iv	1/2 cup	.96	2.28	1.32	26
Butter	1 ball	1 ball	.15	...	12.75	119
Sugar	3 i	2 tbsp	...	60.00	...	246
Water	3 viii	1 cup	...	...	...	853
Total	..	..	6.20	119.78	36.09	853

III.

	Amount	Protein	Carbo-hydrate	Fat	Calories
*Apple Sauce	3 iv	1/2 cup	.50	46.50	2.00
Mashed potato	3 iv	1 cup	5.20	35.60	6.00
Milk	3 viii	1 cup	7.26	11.00	8.80
Olive Oil	3 i	2 tbsp	...	...	242
Total	..	..	12.96	93.10	42.80

*Mix—give with water which precedes feeding.

IV.

	Amount	Protein	Carbo-hydrate	Fat	Calories
Cornmeal Gruel	3 viii	1 cup	7.70	19.04	8.22
Mashed Potato	3 viii	1 cup	10.40	71.20	448
Sugar	3 i	2 tbsp	60.00	...	246
Butter	1 ball	1 ball	.15	...	119
Water	3 iv	1/2 cup	...	150.24	32.97
Total	..	..	18.25	150.24	999

LOW CARBOHYDRATE DIETS—I.

	Amount		Protein	Carbo-hydrate	Fat	Calories
Milk	3 xvi	2 cups	14.52	22.00	17.60	314
Beef Juice	3 iv	1/2 cup	5.88	...	0.72	31
Eggs	ii	2	13.40	...	10.50	152
Olive Oil	3 i	2 tbsp	...	...	26.00	242
Total	..	..	33.80	22.00	54.82	739

II.

	Amount		Protein	Carbo-hydrate	Fat	Calories
Beef Juice	3 iv	1/2 cup	5.88	...	0.72	31
Eggs	ii	2	13.40	...	10.50	152
String Beans	3 iv	1/2 cup	.96	2.28	1.32	26
Butter	1 ball	1 ball	.15	...	12.75	119
Olive Oil	3 i	2 tbsp	...	...	26.00	242
Total	..	..	20.39	2.28	51.29	570

III.

	Amount		Protein	Carbo-hydrate	Fat	Calories
Beef Juice	3 viii	1 cup	11.76	...	1.44	62
Eggs	2	2	13.40	...	10.50	152
Spinach	5 iv	1/2 cup	4.20	5.20	8.20	114
Olive Oil	3 i	2 tbsp	...	...	26.00	242
Total	..	..	29.36	5.20	46.14	570

DIET PROVIDING FRESH VEGETABLES.

	Amount		Protein	Carbo-hydrate	Fat	Calories
Milk	3 xvi	2 cups	14.50	22.00	17.60	314
Sugar	3 i	2 tbsp	60.00	...	...	123
Mashed Potatoes	3 iv	1/2 cup	7.80	41.40	8.00	336
Peas	3 i	1/2 cup	6.16	13.43	3.13	110
Eggs	ii	ii	13.40	...	10.50	152
Total	41.86	136.83	39.23	1035

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APPROXIMATELY SALT FREE DIETS—I.

	Amount		Protein	Carbo-hydrate	Fat	Calories
Apple Sauce	5	iv	1/2 cup	.50	46.50	2.00
Beef Broth	3	viii	1 cup	10.56	2.64	.96
Eggs	2	2		13.40	...	10.50
Butter	1	ball	1 ball	.15	...	12.75
Sugar	3	i	2 tbsp	...	60.00	119
Total . . . . .	..	..		24.61	109.14	246
					26.21	983

II.

	Amount		Protein	Carbo-hydrate	Fat	Calories
Oatmeal	3	ii	1 cup	5.60	23.00	1.00
Milk	3	xx	2 1/2 cups	18.15	27.50	22.00
Beef Juice	3	iv	1/2 cup	5.88	...	.72
Sugar	3	i	2 tbsp	...	60.00	246
Olive Oil	3	i	2 tbsp	...	...	242
Total . . . . .	..	..		29.63	110.50	49.72
						1037

NEWS ITEMS

During the early summer a number of changes have been made in the personnel of the dietary departments of hospitals,—Miss Mary Lyon previously at the Braddock Hospital, Braddock, Pa., is at the Homeopathic Hospital in Buffalo; Winifred Nash who has been dietitian at the Norwegian Lutheran Hospital, Brooklyn, has taken charge of the employees' lunch room of Lord and Taylor's Department Store, New York City; Mary Louise Shaw has been appointed assistant dietitian to Margaret Hoffman, Ohio Valley General Hospital, Wheeling, W. Va.; Breta Luther substituted at Passavant Memorial Hospital, Chicago, during the absence of the dietitian and has since accepted a position at Cook County Hospital, Chicago. Miss Tholman gave up her work at the Lyon Hospital, Boston, to take charge of the dietary department of a hospital in Galveston, Texas, we have not learned which hospital in Galveston; Mary Harrington goes from the Des Moines General Hospital to the Iowa Lutheran Hospital of Des Moines. Annie C. Morrison will succeed Miss Harrington at Des Moines General. Miss Catherine Goff has recently gone to the Research Hospital of Kansas City, Mo.

The Minnesota State Dietetics Association held its first meeting of the year in October, and elected officers. The officers were: Miss Marion Peterson, Swedish Hospital, Minneapolis, chairman; Miss Margaret Drew, Northern Pacific Hospital, Brainerd, Minn., vice-chairman; Miss Adeline Standenmeyer, St. Luke's Hospital, St. Paul, Minn., secretary; Miss Winnifred Howard, Eitel Hospital, Minneapolis, corresponding secretary, and Miss Theresa Gutsh, St. John's Hospital, St. Paul, treasurer.

The physicians of the twin cities have been very generous in giving interesting and instructive papers, and among the subjects discussed this year were Diet in Typhoid Fever, Diet in Nephritis, Diet in Skin Diseases, Diet in Deficiency Diseases. There were several open discussions on subjects like Dietitian's Salaries, the Dietitian as Purchaser, Hospital Cafeterias, and Dietetics for Nurses, and the general opinion favored these as most valuable. A report of the convention at Cincinnati was given by Miss Peterson, and all members were urged to attend the next annual meeting. The constitution drawn up last year was discussed and adopted this year.

There were social meetings as well as business, one being in the nature of a "Pot Luck" supper held at Miss

Thomas' rooms at the University Hospital, and all agreed that it was the best ever. The final meeting was a picnic on the river bank, and plans were made for next year's program.

Miss Jessie Campbell finished the course in Student Dietitian Training at Massachusetts General Hospital and has been appointed assistant dietitian under Miss May Foley.

Miss Helen Barker, former dietitian at Wisconsin General Hospital, has completed the three month's course for Social Service Dietitian at Michael Reese Dispensary under Miss Blanche Joseph, and has accepted a position as nutrition worker with the Elizabeth McCormick Memorial Fund, Chicago, Ill.

Miss Elizabeth Powers has assumed charge of the dietary department of Harper Hospital, Detroit. Miss Powers had previously been dietitian at the Allegheny General Hospital, Pittsburgh.

Miss Dorothy Ayers, formerly dietitian at Rockford Hospital, Rockford, Ill., has accepted the appointment of dietitian at St. Luke's Hospital, Fargo, N. Dakota.

Miss Ruth Oerter has recently gone to the Polyclinic Hospital, Philadelphia as dietitian. Miss Oerter was previously at Braddock General Hospital, Braddock, Pa., for a short time.

DETERMINING DIETITIAN'S STATUS

The Industrial Management committee submitted two very pertinent recommendations to the American Home Economics Association at the June meeting and secured their endorsement, as follows:

Recommended that the American Home Economics Association appoint a committee to confer with the Surgeon General of the Army and the Surgeon General of the Navy and present to them a resolution relating to the status of the dietitians in the service and that copies of these resolutions be presented to the American Dietetics Association for their concurrent action.

Recommended that the American Home Economics Association appoint a committee to draw up a uniform questionnaire which can be sent to hospitals and thereby secure information as to the type of dietitian required, and from the replies to these questionnaires classify the various hospitals.

Library for Children's Ward

The Department of Social Work of the Boston City Hospital, Boston, Mass., has received a gift of \$500 and with this sum started a children's library for the ward patients. Miss Gertrude Robinson, a graduate of Simmons College Library School has volunteered her services. The hospital expects to expand the library, and in time to employ a paid librarian.

The man or woman who notices a broken hinge or missing fastening, and has it attended to at once, is in a fair way to become a good superintendent for a large hospital. Organization for repairs should be insisted on by the hospital superintendent whose aim is efficient service. Every member of the staff should be instructed to observe and report at once to the superintendent any want of repair which she might come across in her daily work. The superintendent should order the repairs, and thus keep in touch with the general condition of the hospital.

Even in the meanest sort of labor, the whole soul of man is composed into a kind of real harmony the instant he besets himself to work.—Carlyle.

HEALTH AND MODERN INDUSTRY

PLANT HOSPITAL OF THE GOULDS MANUFACTURING COMPANY

By H. G. MEACHAM, Works Engineer, Seneca Falls, N. Y.

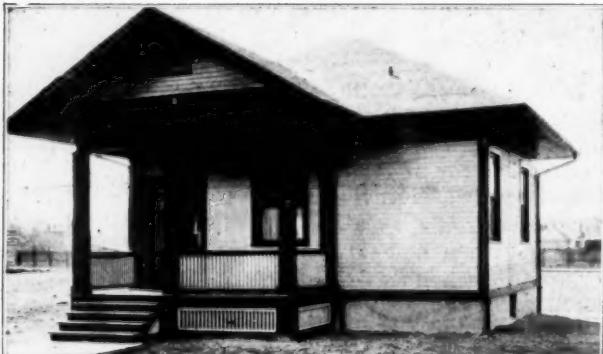
THE phase of so-called industrial welfare work commonly known as "Industrial Medicine" has much to commend it. That this fact is being realized more and more by firms throughout the entire country is evidenced



Before the Plant Hospital and Medical Department of the Goulds Manufacturing Company were established, first aid cabinets and relatively inexperienced service had proved to be inadequate.

by the complete medical departments, in many cases including hospitals, to be seen in almost every plant of any size that one may visit.

A high order of industrial production demands the



Dispensary service for minor injuries constituted the bulk of the work since the hospital was built in 1919. The building is equipped for the handling of major as well as minor work.

speedy restoration of an injured or a sick workman. This is the true function of the plant hospital: to give such medical attention to injuries or illnesses as to insure the quick recovery and early return to work of the employee so affected. Heretofore, with the crude first aid appliances, applied with unsterile hands, many costly infections resulted, and there is no doubt that such infections caused nearly as much lost time and consequent loss of money to the worker as more serious but uninfected injuries.

These methods have been supplanted by as complete a plant hospital as one would wish to see in the plant of the Goulds Manufacturing Company, at Seneca Falls, N. Y. Seneca Falls is a manufacturing town of about eight thousand inhabitants, having a public hospital in the village. The Goulds Manufacturing Company are manu-

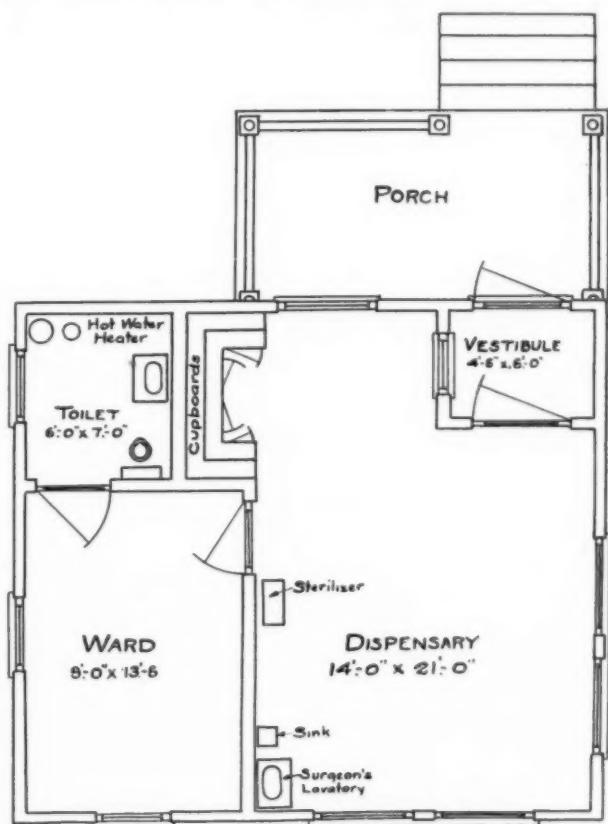


The equipment and arrangement of the surgical room is shown in this picture. It is adequate to meet every demand.

facturers of power driven pumps and hydraulic machinery, employing about twelve hundred men. The accident rate of this plant has been very low in consideration of the fact that so many different hazards are present. Among these hazards are those of wood working, foundry work, machine shop, and structural, boiler, and electrical processes.

In the summer of 1919 the management decided to build a plant hospital and place in it the necessary equipment for the care of minor cases of illness as well as for the prompt handling of any severe injuries that might occur. The accompanying photographs will show the interior views of this building. The line drawing gives a view of the arrangement of the different rooms.

Prior to the inauguration of this medical department, the making of all accident reports devolved upon the foremen in the plant, but when the hospital was started, this work was left entirely to the head nurse, in order to relieve the foremen of a duty for which they were perhaps unfitted and which was liable to take up considerable of their time. The only form which a foreman is required to fill out at the present time is the initial order to the Medical Department to give first aid treatment either for injury or for illness to the man whose name appears on the form. Should it be required, as is frequently the case, for the employee to return to the



The hospital of the Goulds Manufacturing Company provides dispensary service for minor cases of illness as well as any severe injuries that may occur. The floor plan shows the convenient arrangement.

hospital for a re-dressing of the injury, the nurse makes out a second form and gives it to the employee for his foreman. A third form shows the daily record of the Medical Department. In a column headed "Accident Number" is placed the number of the accident, provided it is serious enough to require the treatment of a physician, or if such an accident results in any lost time. A fourth form shows the monthly sick and accident statistical report properly tabulated and summarized.

This system of handling a plant medical department is quite simple and has worked out in a perfectly satisfactory manner. It is hard to tell just what the expense of inaugurating such a department would be, as at the present time prices fluctuate so greatly. There is no resident physician at the Gould Manufacturing plant, as the company doctor can reach the plant hospital from his office in five minutes.

Reverence is almost invariably a characteristic of the truly great mind.—Robert W. Mackenna in "The Adventure of Life."

FREIGHT CAR HOSPITAL WARDS

Freight cars in South Russia no longer carry merchandise, for there is no merchandise to carry; their load consists of living consignments of sick and dying human beings.

Thousands of refugees from the interior of Russia are crowding every town and hamlet in the Crimea. The entire region is now in the grip of a terrible typhus epidemic. Every hospital is crowded to two and three times capacity already and still the number of typhus cases increases.

At the suggestion of the American Red Cross Relief Commission to South Russia, which recently established its headquarters at Theodosia, a little port on the Crimean seacoast, the Russian civil authorities requisitioned hundreds of freight cars standing idle in the railway yards of Sebastopol and other rail centers and turned them into hospital wards for the accommodation of the typhus victims.

Each car is fitted with forty rough bunks, in three tiers; Russian women, most of them nurses of the Russian Red Cross, are in charge. As fast as the cars are fitted for the reception of the sick they are filled. The demand for accommodation is far greater than the supply of hospital cars thus far put in operation. The American Red Cross is planning to extend its work to the furnishing of the hospital freight cars with blankets, mattresses and medical equipment.

GROUP STUDY OF DELINQUENT WOMEN

The findings of the physical and mental examinations conducted by the United States Public Health Service at the State Industrial Farm for Women at Lansing, Kan., in connection with the program of venereal disease control are reported by Walter L. Treadway, under the title "A Psychiatric Study of Delinquent Women in Lansing, Kan.," published in the *Public Health Reports*, and may be summarized as follows: the prostitutes were found to be very well nourished; tuberculosis and diseases of the skin were infrequent; syphilis was found to be of frequent occurrence, though syphilitic heart diseases and other involvements of circulatory and nervous systems, and mental diseases due to syphilis were not common; gonorrhea was discovered in 93.6 per cent of these women; the intellectual level was low and varied among the group studied. The group showed entire indifference to the principles of personal hygiene; neglect of teeth, tonsils, and eyes, impacted ear wax, and like findings indicate the need for medical inspection from the earliest grades of school, together with an improved system of inculcating fixed health habits in the child. The difference of mental caliber shows the importance of individual attention in any school for special training.

A SANITARY EXPERIMENT

A sanitary experiment of interest from the sociological standpoint is that of the Henry Phipps Institute of Philadelphia, Pa. In 1913 the institute leased a small group of houses of the tenement variety, and installed proper sanitation as well as improved the outward appearances. A nurse was put in charge of educational work among the tenants, who were for the most part foreign born. After three years the Institute gave up supervision of the property and returned the management to the tenants. To the credit of the tenants, they have maintained the improved conditions to a surprising degree. The few lapses that have occurred have been esthetic lapses rather than reversion to unhygienic conditions.

OCCUPATIONAL THERAPY, VOCATIONAL RE-EDUCATION AND INDUSTRIAL REHABILITATION

Conducted by DOUGLAS C. MCMURTRIE, Secretary Institute for Crippled and Disabled Men and MRS. CARL HENRY DAVIS, Adviser in Occupational Therapy, 2929 Broadway, New York City

OCCUPATIONAL THERAPY AT COLUMBIA HOSPITAL, MILWAUKEE

HILDA B. GOODMAN, Director.

Occupational therapy has passed the experimental stage and has stood its test, as is demonstrated by the fact that it is now firmly established in most of the large hospitals of the country.

By easing the patients' minds from worrying and fretting, illnesses have been shortened; by introducing a new occupation to the patients, many tedious hours have been



Curative Workshop of the Columbia Hospital.

turned to times of interest and pleasure; by interesting patients in doing something, they have been more contented to stay in the hospital; by keeping patients busy, the discipline of the hospital has been improved; by keeping convalescing patients in a normal atmosphere of work, it has been easier for them to combat weakness and to hasten recovery; and by exercising, through such occupations as basketry, the general muscular tone of the body has been benefited.

Columbia Hospital is a private, non-sectarian general hospital, receiving private, part pay, and charity cases. There is a good sized obstetrical service, and about the usual proportion of medical and surgical cases. The service in orthopedic surgery is especially active.

A great deal of the success and progress in occupational

therapy that has been attained during its first twelve months here has been due to the untiring efforts of the Junior League of Milwaukee, and also to the splendid cooperation and sympathetic understanding of the superintendent, board of directors and medical staff of the hospital. The hospital provides the building, heat, and light for the occupational department. The Junior League pays running expenses and salaries, and has equipped the shop for woodworking basketry, weaving, toymaking, bookbinding, chip carving and other types of shop and bedside work. They also provide volunteer assistance. It is understood that the occupational therapy department, although maintained by an outside organization, is an integral part of the hospital, and that the work is under the direct supervision of the medical staff.

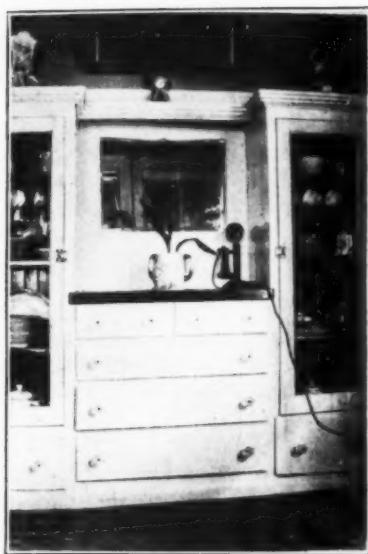
Bedside Work

Books are kept on each floor in which doctors or supervisors enter the name of patients as soon as their condition is such that they can be benefited by having occupation. Samples of work are then carried to these patients, so that they may see a variety of articles that are adapted to the limitations of bedside work. The patients in the wards are easily persuaded to work, for it means competition, company, and discussion over design and materials, and after one starts working the others soon join. The patients thoroughly enjoy their hours of work. In some of the private rooms, however, it needs more patience and perseverance. Many patients have to be educated to the value of work. They still cling to the old idea that rest means having idle hands, although they are fussing and fretting continually.

Psychologists tell us that worrying is a habit and prevents complete rest, and that rest means a change of work, surroundings and mental associations. Thus, al-



Another Room of the Curative Workshop.



Second piece of work of patient suffering with neuritis who have never worked with tools previous to disability.

mothers needing clothes for the new baby may receive a pretty garment as a present from the occupational therapy department at Columbia Hospital.

The work in connection with the children's wards has had wonderful results. Here the occupational therapist becomes the "big sister," and the little ones look forward each morning to the hour of her appearance.

Nurses' Training

The bedside work is done by two pupil nurses, who are obliged to give at least three weeks of their training to this branch of hospital work. We believe that Columbia Hospital is the only general hospital in the country giving this training to all of its nurses, although many schools are offering it as an optional course.

These nurses take work to the patients from 10 to 12 a. m. and 2 to 4 p. m., while the rest of their time is occupied in the shop, learning new crafts, taking care of the shop, and preparing work for the following day.

Students taking the occupational therapy course at Milwaukee-Downer College also receive part of their practice training at Columbia Hospital. These graduates are able to supervise the bedside work and spend a good deal of time working out new problems so that the work does not become a routine, and thus lose its essential value. They also have to study the organization of the curative workshop and methods of starting and carrying on a department for themselves.

The Junior League provides a fund by which extras for the wards, such as flowers, newspapers, cigarettes, games, etc., can be purchased from time to time; for instance, at Christmas a tree was decorated for each ward, and Santa Claus presented each patient with a gift from his bag. On Easter Sunday the breakfast trays were decorated and an Easter greeting placed on each; also a large lily was given to each room.

Circulating Library

This department is to be under the supervision of two members of the Junior League, who will catalogue the books, look out for new literature, and circulate and check all books going to the hospital.

These volunteers will see to it that only the best type of literature is sent to the patients. The books will then be delivered and old ones returned by the occupa-

though bodily activities may be prevented for a time, much can be done towards giving a patient the needed rest, by supplying new ideas and thoughts.

The bedside work includes basketry, cardboard weaving, beadwork, making stuffed toys, carving, making knotted belts and bags, weaving, etc. Also, many patients make and pay for little garments. These are given to the social service department of the Children's Hospital so that

national therapy nurses. Patients can thus be provided with good, interesting, and amusing literature and at the same time the books will be under control, so that no infection is spread.

Curative Workshop

Every hospital has its own peculiar problems in occupational therapy, so that no two departments can be alike. We are adapting the work in the curative workshop at Columbia Hospital to suit the needs of this particular hospital.

The workshop is a very attractive white bungalow with a green roof and shutters. In front is a picturesque, old-



A charming exhibit of some of the articles made in the Curative Workshop.

fashioned garden of hollyhocks, pansies, fox gloves, and other flowers. Bird houses, which have been made in the shop, are placed in various places on the grounds. From the sale of articles that are now in the shop we hope to establish a summer occupational therapy department under an awning, with attractive tables and chairs. The convalescing patients from the hospital can then be wheeled out to enjoy the fresh air, and thus get away from the hospital atmosphere for a time.

Inside the shop the work is mainly curative. The patients are sent and often brought by their physicians with a specified prescription of work for a particular injury or mental condition. The shop contains a full equipment for woodwork, several looms for weaving, also tools for basketry, leather tooling, carving, bookbinding, and other crafts.

Recently the McKenzie reconstruction apparatus has been installed. Physio-mechano and occupational therapy are so closely allied that they should not be separated; for instance, badly injured hands can be exercised on this apparatus long before the patient is able to grasp a tool. There are movements that it is almost impossible to obtain without an apparatus. The apparatus is a most valuable adjunct to the shop as a means of recording movements, for every piece is supplied with a measuring gauge, and the daily results are recorded in a weekly report which is mailed to the doctors who send patients. However, as soon as the patient is able to get the exercise through an occupation he should be encouraged to do so.

The workshop serves not only Columbia Hospital but the entire community. After the patient has left the hospital he is still allowed to return to the shop. The Junior League members lend their cars to carry patients who are unable to come by street car to and from their homes. Also any doctor in the city has the privilege of sending his patients to the shop for free treatment, regardless of what hospital the patient has attended. The ideal of occupational therapy must be to follow the patient from the bedside to the "job."



Columbia Hospital Sun Parlor.

Benefits of Shop Work

The story of a few cases that have been treated in the shop will explain the benefits of such a shop to the community.

One patient had a very stiff knee. He tried to use the velocipede scroll saw but the knee was so stiff that he could not put his foot on the pedal. In order to overcome this, a seat was fixed over the machine at the correct height. This was lowered half an inch at various intervals over a period of several weeks, until finally the man could sit on the regular seat of the machine. After exercising the flexors of the knee each day in this way, the extensors were exercised by climbing ladders, kicking a football which was attached to the table, and other similar devices, until today the man can kneel on the floor with both knees together.

Of course, all cases have not been cures, for an absolute cure in some cases is impossible, and in others it means that the work must be carried over many months and perhaps years. A young woman with an injured arm, whose forward elevation was six and one-half inches on entering the shop, gained nine inches in four weeks, reaching within two inches of her normal height. At first she did not have enough strength to turn a wheel, even on the downward grade, but today she can turn it one hundred and fifty times without stopping.

The patients, seeing this progress from day to day, are encouraged and always try to beat their last record.

Another case was a man with an injured shoulder. He could not raise his arm sufficiently to put a pencil behind his ear. He was very despondent and had decided his arm was never going to be of any use, but by encouragement, exercise, and bribery he reached a cigarette one inch above his normal height, saying, "Damn you, it hurts, but I'll get there," and he did.

Many cases of stiffened hands after infection are exercised by fixing handles of planes with wax or padding

them with cotton batting. In this way hands that are unable to grasp a tool in the ordinary way are enabled to do so.

A man who had been released from an insane asylum and who thereafter used to wander aimlessly about the streets, was brought to the shop one day by the doctor, who asked us to try to get him to concentrate on some definite work. The patient soon became so interested that he has been coming every day, spending five or six hours doing woodwork; now he is general handy man about the shop.

Another was a case suffering from melancholia, and was very depressed. After roaming from one kind of work to another, she finally became interested in basketry, and after working for several weeks in the shop was able to return to work.

In the case of a man who had had both hands burnt and new skin grafted on them, so that the hands were very stiff, we adjusted the tools so that he was able to make a sled. Before he left he could easily close both hands.

A blind man in the hospital, who between his operations was able to get up and go to the shop, was taught before he left the hospital to run a typewriter alone and make very good baskets.

Although incurable, a boy, paralyzed from his waist down, now spends his mornings in the workshop, learning to make toys and other small articles.

A man with a crippled wrist was put to work scraping the stain off some old oak. This exercise gave him flexion and extension of the wrist, which was what he needed, and he made a very good taboret while he was taking the treatment.

In another case a man had his hand and arm badly smashed in a machine. His elbow and shoulder are being exercised by attaching a cloth around the arm three or four inches above the wrist, then with someone holding the other end of the cloth, he is able to polish and rub down furniture, thus getting the required exercise in an interesting way.

The following statistics will give an idea of the first year's work at Columbia Hospital:

Aggregate number of hospital patients—

May	June	July	Aug.	Sept.	Oct.	Nov.
31	63	93	98	76	148	119
Dec.	Jan.	Feb.	Mar.	April		Total
157	91	76	171	136		1,254 patients

Number of out patients sent to the shop—

May	June	July	Aug.	Sept.	Oct.	Nov.
0	4	8	8	9	9	11
Dec.	Jan.	Feb.	Mar.	April		Total
7	12	13	16	15		112 patients

Number of hours spent by out patients in shop—

May	June	July	Aug.	Sept.	Oct.	Nov.
0	89	173	101	152	200	186
Dec.	Jan.	Feb.	Mar.	April		Total
185	247	462	585	381½		2,761½ hours

Teaching force assisting director during the year—

Students from Milwaukee-Downer School.....	7
Student Nurses (since September).....	16



The exterior of the Curative Workshop.

HEALTH ORGANIZATION OFFERS COLLEGE FELLOWSHIP

The Health Organization of America offers one year in Teachers' College, Columbia University,—September 1920, to June, 1921,—for the study of modern health education in the elementary schools, to be awarded to the best graded plan and outline for interesting children in the establishment of health habits. Details will be furnished on application to the Child Health Organization of America, 156 Fifth Avenue, New York City.

VENEREAL DISEASES AND THE HOSPITAL

Conducted by ALEC N. THOMSON, M.D.

Director, Department of Medical Activities

The American Social Hygiene Association, 105 W. Fortieth St.,
New York City

CHANGING A PRIVATE RESIDENCE INTO A VENEREAL DISEASE CLINIC

By EARL R. BUSH, M.D., Director, W. S. P. H. S. Clinic, South Bend, Ind.*

With the increased need throughout the country for free venereal clinics comes the demand for more information on the details of their establishment especially from the smaller clinics where economy is a great factor, and where ingenuity can often develop greater utility.

Difficulties are usually encountered in beginning any



Front entrance of the U. S. P. H. S. Clinic, South Bend, Ind.

new thing, and breaking ground in this anti-venereal disease crusade has not proven an exception. Usually the first clash is over the question of funds, but in South Bend the most annoying obstacle was the securing of a suitable location. It appeared that everyone objected to having the clinic next to his place of business. What seemed to be an overwhelming defeat, namely, the loss of rooms in a modern office building, eventually paved the way to a bigger success. Through the untiring efforts and unusual determination of the local health officer a residence was finally secured. Credit must also be given to the owner, whose interest in the movement was keen. The residence is located on a prominent street just outside of the business district. No building could have been more adaptable, and the only objection to it ever raised—its conspicuous position—has proven negligible.

It is a big mistake to consider that a clinic of this kind may be conducted like the average doctor's office. Nothing is more fatal to the dexterous handling of patients. Plans must be made for treating many more than can be cared for in the private office, and should contemplate, also, the possible need for expansion. Two waiting rooms are absolutely essential so that men and women may be separated. There is a natural timidity about entering a venereal disease clinic at best and

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privacy is both an asset for success as well as a just demand on the part of the patient.

When it is possible, the same idea should be carried out in arranging the treatment rooms. If only one room is available this may be accomplished by means of curtains. Time is precious when there are forty or fifty patients in the waiting rooms and the arrangements for treatment must be such that the doctor has no idle moment. Several men or several women can easily be handled in one room, but with a single room system, one woman can hold up a whole roomful of men and the doctor as well, while she is recovering her toilet. We have tried to minimize this troublesome factor by proper adaptation of our floor space.

Referring to Figure 1, which shows the original floor plan, it will be seen that there were three rooms to the front and three to the rear of the building. At first glance one would choose the two large rooms opening onto the front porch as the most suitable ones for waiting rooms, but study of the situation shows that there would be trouble in getting patients back from the parlor. We hit upon a better plan involving very little remodeling and which really improved the house. Figure 2 shows this, as



Men's waiting room.



Treatment Corner, Operating Room Number 2—This was originally the kitchen sink and drainboard. The pump is covered by a towel and not used. By using a wall bracket, some wire cable, and two pulleys, with the large irrigating jar, a very elastic arrangement has been devised for irrigating. Filling is easily accomplished, and can be done often enough to insure a hot solution. Liquid soap devices and paper towels are used. A large water heater with an automatic burner insures a continuous supply of hot water.

well as the other minor changes and repairs made. Doors were cut at points B and C, and the adjacent portion of the back porch closed by a wall D. New flooring was necessary for the space thus inclosed, and a ceiling of lumber rather than plaster. The parlor and back bed room were connected through the closet at A. Two doors, taken from the upstairs closets were hung, one at C, the other at A.

This scheme provides an entrance room which has also been made the administrative office. Here the records are kept and all routine business affairs conducted. It affords privacy for the clerk, and a room wherein visitors or individuals, whose business is not professional, may be received without seeing or being seen by patients. The two waiting rooms are entirely separate and have separate entrances into the back room. Patients enter the front or reception room, give their record number to the clerk and pass on into their respective waiting rooms. Only when men and women enter together do they ever see one another.

The original plans contemplated using only the dining room for treatments. A sink was placed in the corner near the bath, light papering done, and electric wiring installed. A large cluster light with a wide crystal reflector which we found in the plumber's junk pile has been very serviceable, allowing enough central illumination as well as sockets for drops. While the room offered ample space for any method of handling patients, we decided that greater elasticity could be obtained by fitting up the kitchen as well. By stretching wires and hanging curtains as shown in Figure 3, two cubicles were formed in the front operating room and at the same time a passageway from the waiting rooms to the back room or kitchen. A

sink was already present in the kitchen, but a new floor was necessary. We added a shelf for laboratory work and painted the room with flat white. Both the dining and kitchen rooms have exits to the outside. The curtains in the front room afford enough privacy to patients while others are passing to the back, and have made the back room fully as useful as the front. Just a word here relative to these curtains. They are the best investment possible, for besides being useful to wonderful extent, they add much to the appearance of a treatment room. The only expensive part is sheeting. They hang from taut wires stretched across the room from wall to wall. Wires are the best kind of support if properly placed, for they permit great freedom in handling the curtains and do away with any obstructing posts. Screw eyes of about No. 4 size hold well in woodwork or a hook with a longer screw (No. 0) may be used if one must penetrate to a joist. These anchoring parts need to be well set and firm. The wire used should be about No. 12 and pulled taut with a wire stretcher. Such an apparatus designed for use in wire fence work is always available at the hardware store. Before securing the wires at both ends, small brass rings are threaded on, allowing about one ring for each six inches. In fastening the curtains to the rings ordinary curtain pins or safety pins may be used. The wires are seven feet from the floor, while the curtains are made to extend within six inches of the floor with an allowance for shrinkage.

Equipment for the clinic must depend upon the amount of money available. The best is always the cheapest in the long run, especially in professional appliances, but many little economies can be practiced without sacrificing utility and durability. These little savings are the ones that count too, and are usually omitted because of their apparent insignificance. As examples of this, I have found that cracker jars of glass are better than white enamel dressing jars. They cost \$.40 as compared to \$2.00 for the latter. Individual baking cups serve for needle trays or medicines, a rectangular two-tray butter dish is very useful for glass syringes. Small wine glasses can be used for mixing Neosalvarsan and stand considerable boiling. Ordinary cheap tumblers of thin glass make good urine glasses.

A good operating table is very useful. We purchased the best available and have been glad of the choice. An electric sterilizer, a dressing table with glass shelves, a two pan irrigating stand, and two W. E. operator's stools were the only other expensive pieces found necessary. These were supplemented by some bed-side tables brought from the local isolation hospital, which may be seen in the pictures. They make good record or instrument tables.

Furniture for the reception and waiting rooms was purchased from the exchange department of a local furniture store, with the exception of the filing cabinet. This furniture had been repaired and refinished and is serviceable in every way. The saving amounted to at least 50 per cent. Simple sash curtains and cotton cord porch rugs complete these rooms. The arrangement of all equipment is shown in the drawings.

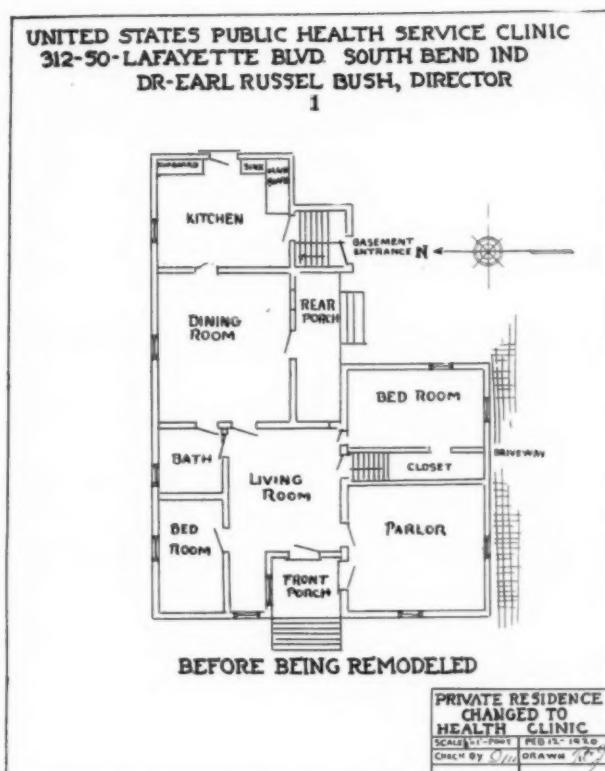
The drawings are self-explanatory, but a few remarks on the manipulation of patients might not be amiss. All men are treated in operating room number 2, except those receiving salvarsan or such other attention demanding a table. They are admitted to operating room number 1 and pass around through the curtained passageway to the back room. All of them leave by the rear exits and gain the street through the driveway. Women enter and leave through their waiting room.

By using the buzzer the nurse may be called from the

August, 1920

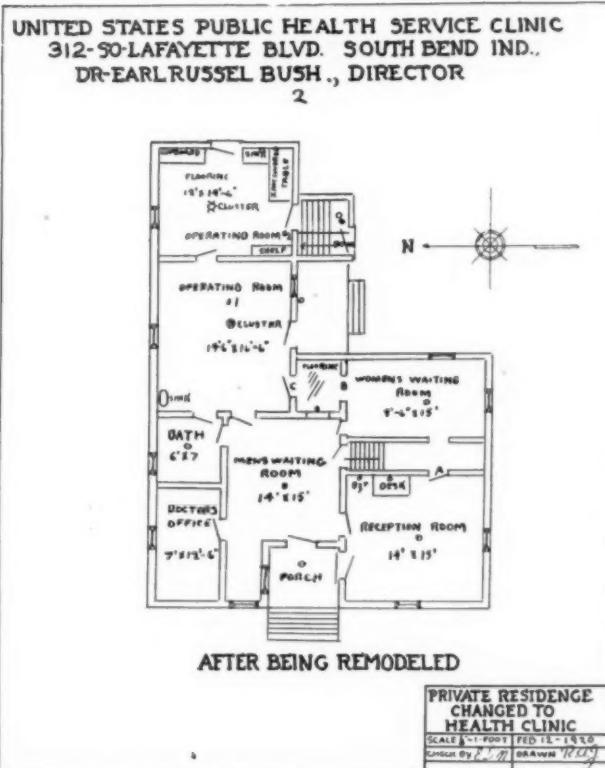
THE MODERN HOSPITAL

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Plan of the United States Health Service Clinic of South Bend, before it was remodeled. The building is steam heated, and lighted by gas.

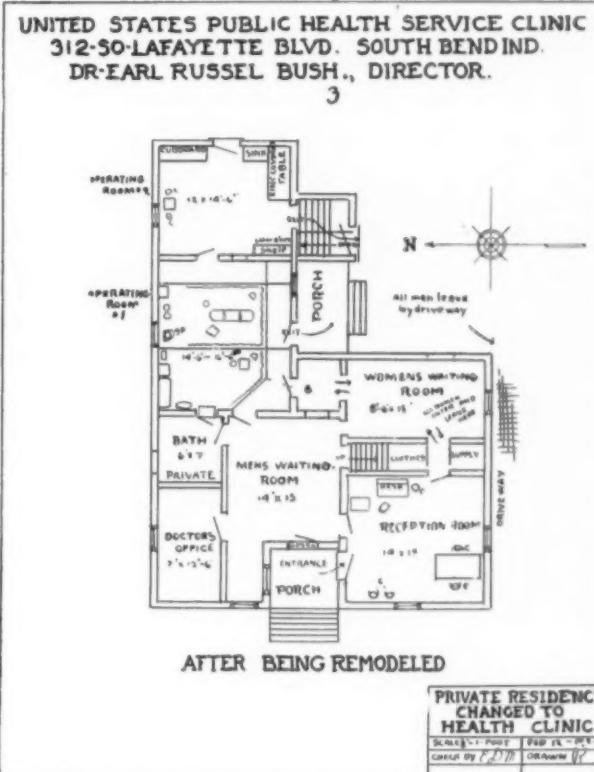
front room to place a female patient on the table thus leaving the doctor free to continue work in the back room on male patients. Or he can give an injection of HgSal.



Plan of the Health Clinic, after it was remodeled. It was necessary to install new flooring in operating room number 2, and to enclose the end of the porch. A new sink was placed in operating room number 1, and hot water heating was installed.

to another patient, either male, or female, in the cubicle towards the waiting rooms, while waiting for the nurse to do this. Nearly any combination can be worked out so that the doctor goes from one thing to another with very little lost time. If two doctors are working, they of course have very few conflicts since each works in a separate room.

The little room in the northwest corner, marked doctor's office, has been used for private interviews of an unprofessional character. Here the investigator receives in-



Plan of the Health Clinic after it was remodeled and the equipment was installed. Note two cubicles formed in front operating room by curtains hung on wires.

structions relative to follow-up work and suspects, and makes his report of work accomplished.

Our clinic has been crowded since the opening day, the average growth being about one hundred a month. This has been due to the advertisement it has received. Whereas we started with a personnel of three, doctor, nurse, and investigator, it became necessary to add a clerk and another physician for part-time work. The results have been very satisfying in every way, and have demonstrated beyond our greatest expectations the need for such an institution, and the good that can be accomplished. No investment pays greater dividends to a community.

PHYSICIANS AND THE AUTOMOBILE

It is reported by the National Automobile Chamber of Commerce that one hundred thousand automobiles are owned by physicians, which means that two-thirds of the doctors of the country now reach their patients by means of motor vehicles. Ninety per cent of the rural doctors, it is stated, use automobiles. The effect of the use of motor vehicles upon the health of rural districts is considered by the Chamber to be immeasurable, bringing as it does, medical care and the knowledge of sanitation more readily to the rural population.

QUERIES AND ANSWERS

AMMONIA AND CARBONIC-OXIDE REFRIGERATION COMPARED

To the Editor of MODERN HOSPITAL:

We are very anxious to determine the initial cost, maintenance, upkeep, and comparative merits of the ammonia and carbonic oxide refrigeration for a hospital of one hundred beds.

HOSPITAL.

Regarding relative merits of ammonia (NH_3) and carbonic oxide (CO_2) refrigerator plants for a hospital of one hundred beds, there is this to be said: Deaths have occurred in the packing houses of Chicago and other places, by the breaking of ammonia pipes of ammonia refrigerator plants; therefore, carbonic oxide machines are generally recommended in cases in which the plant is in a part of a building, or a building in which people, in addition to the engine room force, are at work, or housed. There is no danger if the cooling boxes are cooled by circulating brine and the refrigerating machinery is in a separate power house, connected to the hospital only by small conduits. There is danger, however, if the boxes are cooled by direct expansion of ammonia in the cooler coils, notwithstanding that the machinery may be in an isolated power house. This latter system is, however, rarely used where comparatively small cooling boxes predominate.

The first cost of the two systems is about alike. The maintenance of the ammonia compression is a little less than for the carbonic oxide machine, because of the lower pressures used for ammonia, and the cost of operating the ammonia system is also a little lower. Due to higher pressures used with the carbonic oxide system, more of that refrigerant escapes than of ammonia, and inasmuch as it is odorless it often is allowed to escape unnoticed for some time. Generally a full charge of CO_2 costs more than a charge of ammonia.

You will find that the majority of hospitals use carbonic oxide machines,—among them, the Michael Reese, Henrotin, Grant, Lying-In, and Illinois Central hospitals in Chicago, and almost every one of the best restaurants.

A hospital of one hundred beds should have a plant equipped to make ice and cool circulated drinking water as well as to cool the storage, pharmacy, laboratory and body boxes. We estimate that the cost, erected, would be about \$10,000, including the insulated ice making tank, the water cooling tank, insulated piping to the tank and to the boxes, but not including the refrigerating boxes.

NURSES' TIME ALLOWANCE

To the Editor of MODERN HOSPITAL:

What allowance of time is granted a nurse who resigns or is dismissed from a school of nursing and is admitted to another school?

NURSE.

It is the custom to grant as much credit for time spent in other schools as possible, and to give full credit for subjects successfully completed in other schools upon presentation of evidence that the theoretical instruction received was equivalent in both schools. Slight differences due to variations in the arrangement of subjects in courses in other schools are met by assigning the nurse to extra classes, whenever practicable. Where this is impracticable, a plan is worked out which will subject the student to the least possible loss of time.

No arbitrary rule can be laid down for the handling of these cases. Each one must be considered on its own merits.

The student nurse is as much entitled to credit for time spent and for work done as the student in any other school, and any imposition of a time penalty, for the sole reason that she has left, or has been dismissed from one school and is then admitted to another, is manifestly unfair.

MECHANICAL VENTILATION IN SMALL HOSPITALS

To the Editor of MODERN HOSPITAL:

Is a mechanical ventilation system necessary in a small hospital and if so, where should it operate?

SUPERINTENDENT.

It is not necessary to install mechanical ventilation in a small hospital, excepting that it is always well if possible, to have a supply of fresh air and the exhaust of foul air from utility rooms, anesthetizing rooms, and operating rooms. These rooms are subject to fumes or some escape of vapor, or odors, and should be ventilated, if funds will permit.

COLORS BEST SUITED FOR HOSPITAL INTERIORS

To the Editor of MODERN HOSPITAL:

What colors are best suited for interior finish of hospitals providing maximum comfort for patients, and maximum utility?

DECORATOR.

In order to preserve the light in most rooms in hospital buildings, it is necessary to use light colors. Nine times out of ten, a light buff, gray or yellow are preferable, as the sunlight effect is desirable. Light green on the warm rather than cold tones may be used where there is a super-abundance of sunlight.

Mr. Basset Jones, the lighting expert, has conducted a series of tests to arrive at the color that most nearly meets the requirements of the maximum reflection of light with minimum eye strain. His experiments seem to show that a color which might be described between a light green, gray and buff, was the result.

FOREIGN CORRESPONDENCE

ROCKEFELLER GIFT TO UNIVERSITY COLLEGE HOSPITAL, LONDON

(From Our London Correspondent)

The Rockefeller Foundation has offered to Great Britain what is probably the largest single endowment for medical training and research that any British medical school has ever received. Two institutions in London benefit by this gift, namely, University College Hospital and Medical School and University College. The hospital and medical school is offered the sum of £835,250 (\$4,176,250). University College is offered the sum of £369,800 (\$1,549,000) for the construction and maintenance of a new Institute of Anatomy, £190,000 is for the building and equipment of the institute, the remainder of the sum being invested to produce an income of £10,000 (\$50,000) a year for endowment. The college requires the sanction of the University of London before a formal acceptance of the gift can be made, although, of course, the decision is in no doubt. University College Hospital and Medical School has already accepted its magnificent offer, and at the same time undertaken the obligation which is entailed, of increasing its own funds by raising an additional £20,000 (\$100,000) a year for its part of the cost of maintenance. The gift is not intended to relieve the London sick; it is an endowment for medical teaching, training, and research, and in the first instance, and above all, its object is to make complete and efficient what is known as the "unit system" of training of medical students. A complete "medical element" consists of medical, surgical, and obstetric units. The two first named have been instituted already at University College Hospital Medical School, and the Rockefeller gift will enable it to add an obstetric unit, and to increase the efficiency of all. It may be said that University College Hospital is a comparatively new structure, having been built by the late Sir J. Blundell Maple, who spent some £200,000 (\$1,000,000) on it twenty-five years or so ago. The enlargement contemplated will give space for 120 additional beds. For the purpose, the whole of the southwest wing, now used as a nurses' home, is to be converted into wards. Dr. G. Blacker, the dean of University College Hospital School, stated in the London Daily Telegraph June 12, last, that the need for the obstetric unit has long been imperative. Every year several thousand women died during childbirth, owing to inadequate provision of lying-in beds in hospitals. With good teaching and the creation of an obstetric unit, the deaths could be reduced to nil. There will be sixty beds in the new obstetric unit in University College Hospital, and the total bed accommodation of the whole hospital will be 500, of which number 100 will be endowed at an annual cost of £15,000 (\$75,000) by the Rockefeller Foundation. The Rockefeller funds provide the building and

maintenance of the new obstetric unit of the hospital.

The Interim Report of the Consultative Council of the Ministry of Health and the British Hospitals

The Consultative Council of the Ministry of Health on Medical and Allied Service, in an interim report issued recently, sketch a vast and bold scheme for revolutionizing the practice of medicine in Great Britain in conformity with modern views. Broadly speaking, it is proposed to establish from one end of the country to the other, primary and secondary health centers. The especial feature of the primary health center would be, in contradistinction to secondary health centers, that they would be staffed by general practitioners. Hospital facilities would be provided and every opportunity afforded the general practitioner to make early diagnoses, and thus prevent disease from developing into formidable proportions. The service of the secondary health centers would be mainly of a consultative type. These centers would receive cases referred to them by the primary centers, for purposes of diagnosis in obscure cases or for such treatment as could not be supplied in the hospitals of the primary centers. To both primary and secondary health centers there would be correlated certain institutional services from time to time necessary to each. Such service, termed "supplementary," may be exemplified by the following: sanatoria for tuberculosis, recuperative or convalescent centers, hospitals for curable or incurable mental disease, institutions for the feeble-minded, epileptic colonies, orthopedic centers, hospitals for certain infectious diseases. It is suggested that in those parts of the country where it is geographically possible, it is desirable that every secondary health center should be brought into relationship with a teaching hospital. The academic influence, and the spirit of inquiry and progress associated with a teaching hospital, would permeate the system of secondary and primary health services within the allotted sphere of influence of such a medical school. The teaching hospital would receive cases of unusual difficulty, and those requiring specialized knowledge or equipment, and in so far as is necessary, patients suitable for either primary or secondary hospitals should be freely admitted to teaching hospitals.

With regard to voluntary hospitals the report points out that the scheme for the provision of primary and secondary health centers necessarily raises the important question of the position of the voluntary hospitals. Not only have these institutions carried on their work of supplying treatment to the sick poor—some of them for centuries—but they have been centers for the advancement of medical knowledge, for the education of the doctor, for the training of the nurse. Thus their service to the country extends far beyond the actual care of the poor who visit them. Attention is drawn to the fact that the

hospitals have fallen on evil times, and that almost without exception every hospital in Great Britain is facing increasing difficulty in carrying on its work. It is hoped by the Council that the scheme suggested will help these institutions, since they are an essential part of the scheme. They should receive grants in aid for work carried out, and it is further hoped that those of them which are similarly equipped may receive grants in aid for carrying on research, and that those with schools attached may also be assisted in their most important work of medical education. If no hospital exists in a given area, it will have to be provided. If a voluntary hospital does exist, its existence will be welcomed, both in the provision of beds and equipment and in the accumulated experience of its medical staff and management, which would be valuable to any health authority. The benefits they would receive under the scheme would be in proportion to the extent of their cooperation and readiness to come into coordination with the general plan. The position of the voluntary hospitals under the scheme, if or when it comes to pass, appears to be by no means clear. However, as the scheme itself is still under consideration, its framers can hardly foretell with any degree of accuracy what its effect on the voluntary hospitals might be. If they receive grants, they will be state, or state supported in some degree. The scheme, moreover, calls for the establishment of many more hospitals, the money for which in existing circumstances may be difficult to procure. No doubt reorganization and coordination of the present institutions will assist in solving the problem, but there is no getting away from the fact that the hospital question in Great Britain is a grave one and that the Council's report does not suggest any satisfactory solution.

AN OBJECT LESSON IN SOCIAL HYGIENE

It has only recently been realized how great is the need in rural communities for education in social hygiene. And only when confronted by statistics has the public been brought to realize that country life is not always healthy life, and that there are more physically deficient school children in the rural schools than in the city schools. Health experts have attributed this state of affairs to the fact that no great effort has yet been made to educate the rural communities in social hygiene. In view of this condition, the Board of Health of North Carolina suggested the value of a traveling exhibit for the rural districts which could serve as an object lesson in bringing before the eyes of the communities the solution of their special health problems. With the aid of the American Red Cross this was made possible. Ten thousand dollars was appropriated and donated to the American Social Hygiene Association for the purpose of establishing traveling exhibits on social hygiene which will make tours through a number of states, of which the first will be North Carolina. The exhibit will be mounted on a motor truck, and will include a motion picture machine with films and slides on social hygiene, a fireproof booth that can be set up in schoolhouses or churches, and quantities of literature and posters. Preceding each community exhibit a representative will be sent out to ascertain the local health problems so that they may be dealt with specifically. This plan constitutes a definite step in the direction of nation-wide health education.

OPERATING WITH FLINT SCALPELS

Stone Age tools are being used in a certain Bulgarian hospital to perform modern operations. In the absence

of any surgical instruments whatever with which to operate, the Russian surgeons in charge have taken a leaf from the book of their prehistoric ancestors, and have chipped flints.

Dr. Bashlikef, former Bulgerian court physician, decided upon the expedient of flint bone scalpels for the Varna hospital after seeing the predominating percentage of head wounds among the refugees the hospital's chief patients encamped without the city. Such operations were performed by the ancient Gauls, as their exhumed skulls prove. Moreover a freshly chipped flint has an excellent cutting edge and possesses perfect immunity from infection. And so crude, but thoroughly clean operations are being performed with flint knives.

Soon, however, the Varna hospital will be adequately supplied. The S. S. Hamlin, containing several tons of American Red Cross hospital supplies was recently unloaded at Constantinople, and these have been shipped to Varna. Meanwhile the entire surgical equipment consists of eight instruments, too rusty for use, and the only drugs on hand are two quarts of tincture of iodine, one pound of magnesium sulphate, one pound of bisulphate of soda and a little ipecac.

RURAL COMMUNITY INFANT MORTALITY AND MATERNITY CARE

In the study of maternity care made by the U. S. Department of Labor Children's Bureau in six rural areas of four states, the following startling facts are brought to light: one 5,500 mile area has no hospital; nor has the southern mountain county; in a southern county only sixty-eight out of 160 mothers had a doctor at their last confinement; eight out of sixty-six in the northern county had physicians' care; in another more than two-thirds of the women did not have a physician when their babies were born. Most of these women would have come to hospitals had there been any within reach. In a large number of cases untrained hired girls, relatives, or neighbors gave the mothers what little care they received. As a result of these conditions the infant mortality rate has been appalling. Figures gathered from five rural communities testify that forty-five out of eighty-nine babies, twenty-two out of twenty-eight, twelve out of fifteen, ten out of sixteen, ten out of fourteen, or sixty-one per cent of the babies born died before they were a month old.

CHINESE WOMEN ABLE PHYSICIANS

Two large hospitals in China have been founded and are being conducted by women physicians who have received their medical training in the United States. One, a magnificent building with thoroughly modern equipment, was established fifteen years ago by Dr. Ida Kahn, who received her training at Ann Arbor, Mich., and it is the only hospital for women in the province of Nanchang. Many nurses and assistants have been trained in this institution. The second hospital was founded by Dr. Lin Hie-Ding who while serving as an intern in a Chicago hospital, introduced a new method of twilight sleep which proved quite successful. During her practice in this country she made many friends among the inhabitants of Chinatown, who later aided in financing the hospital project which culminated in the establishment of the second women's hospital in China. Through the cooperation of these two Chinese women the American medical missionaries succeeded in promoting public health measures in the Orient.



THE
EASY AND SURE
WAY
FOR THE NURSE

Among the few dishes which the nurse really likes to prepare and serve are the beautiful and refreshing Jell-O desserts and salads. They are made by adding to the Jell-O bits of fruit and nutmeats or chopped celery—and it doesn't matter whether they are called desserts or salads or something else, for they are equally good for the patient.

The use of Jell-O for such dishes saves time and labor for the nurse, and the result is always satisfactory. These are three points upon which the nurse may confidently rely.

Jell-O is made in six pure fruit flavors: Strawberry, Raspberry, Lemon, Orange, Cherry, Chocolate.

The new Special Package for hospital use contains enough Jell-O to make four quarts of jelly as against one pint of the regular small size.

THE GENESEE PURE FOOD COMPANY
Le Roy, N. Y., and Bridgeburg, Ont.

Consult the 1920 Year Book for Catalog information.

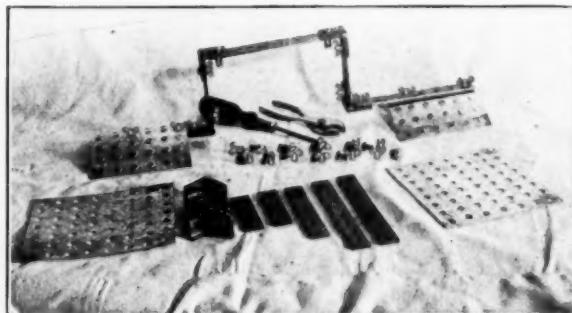


PROGRESS IN EQUIPMENT AND OPERATION

Conducted by FRANK E. CHAPMAN
Superintendent, Mount Sinai Hospital, Cleveland, Ohio

UNIVERSAL SPLINT PARTS—A BOON TO HOSPITALS

The biblical promise of "wisdom out of the mouths of babes," was justified in the invention of the new Ever-Ready splints. Dr. French, the designer, while working on a special splint for a difficult case was amazed to find his young son making a similar splint for his doll from the parts of a toy mechanical construction outfit. The



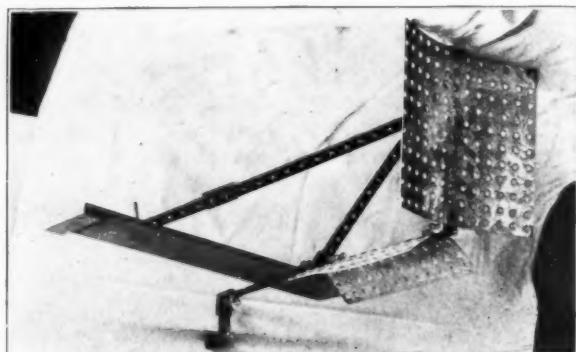
An assortment of Ever Ready Splint material.

idea immediately flashed in Dr. French's mind that herein lay the solution of the splint problem for the busy surgeon and for the hospital.

The splint question is a vexing problem in the general

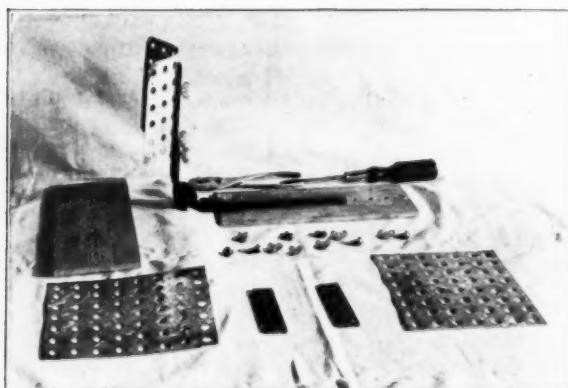
every case encountered in general practice—to have facilities for the manufacture of special splints to meet the requirements of special cases—or, a policy of convenience in which the surgeon picks out the nearest splint for the purpose with the remark, "I guess I'll have to make this one do." Unfortunately the latter condition holds in many institutions. Of course, some hospitals are fortunately enough situated to have a surgical supply house of ready access from which they are able to buy their special splint requirements as need may arise.

What appears to be the solution of this problem for the hospital as well as for the surgeon is found in the Ever



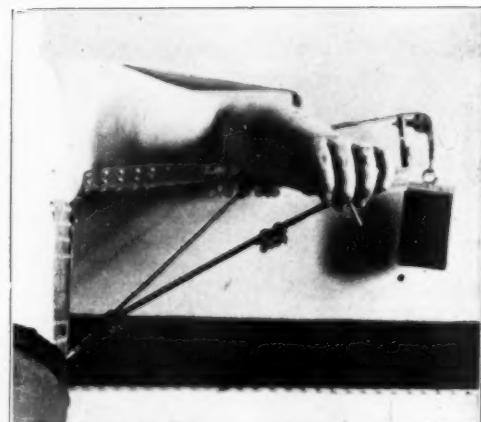
The aeroplane splint ready for application.

Ready splint frame material recently designed. This consists of longitudinal perforated metal bars (preferably of aluminum) of different lengths, definite angles, flexion extension, abduction and deduction joints. To these metal



Beginning the assembling of an aeroplane splint.

and surgical hospitals as well as for the industrial surgeon. Good surgical practice requires that a special splint be adopted for each individual case. To accomplish this it becomes necessary for the hospital to do one of the three things, either maintain a very large assortment of splints designed to meet the requirements of practically



The aeroplane splint in use, showing extension attachment.

*Our advantages make us headquarters
for the organo-therapeutic products*

The Importance of a Hematinic in Syphilis

Practically every case of syphilis at one stage or another, suffers from the destructive influence of the virus on the corpuscular elements of the blood stream. The plan of treatment of most physicians embraces a blood maker, and the **QUICK RESPONSE OF SYPHILITIC CACHEXIA** to

Extract of Red Bone Marrow (Medullary Glyceride)

indicates that its selection for the purpose is most logical.

Prepared from fresh red bone marrow—the function of which seems to be the regeneration of blood corpuscles—this product may be depended upon as an effective blood builder and flesh maker.



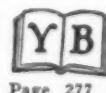
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*Sterile Surgical Catgut
Ligatures—plain and
chromic—regular (60-
inch), emergency (20-
inch), sizes 000 to No.
4 inclusive, are smooth,
strong, and "just what
a ligature should be."*

Literature to Physicians on Request.

ARMOUR AND COMPANY

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An Ever Ready Splint applied to arm, wrist and hand.

bars are added convenient bolts with thumb screws or wing nuts and perforated metal sheets. The joints, bars, angles and sheets can be readily bolted together to produce any splint form or splint desired. The bars can be readily



Showing flexion of wrist accomplished by means of special attachment.

transposed, thus the accurate adjustment of the splint frame to each individual case is readily accomplished. It may readily be seen that with this Ever Ready splint material, all the standard splints as designed by master surgeons can be quickly and accurately reproduced for the individual case at the time of operation, resulting in



A Hodgens Splint in position.

greater comfort, speedier recovery and better functional results.

After the splint is no longer necessary for the case, instead of adding one more piece to the pile of "junk" in the splint room to wait to be used on another case of the same size, perhaps ten years later, the splint may be taken



A Hodgens Splint with extension attachment added.

apart and reassembled in any form as the occasion demands. For example, should an Osgood aeroplane splint be desired, this could be constructed to the given design in about fifteen minutes and after this splint is no longer necessary, instead of discarding it, it can be taken apart and reassembled into a Hodgens frame or any other form of standard splint. The adoption and use of this new



Leg splint showing facilities for open dressings.

splint material by the hospital should result not only in a material saving to the institution, but should add much to the efficiency of treatment and saving hours of time and worry in trying to comply with an order of the surgeon calling for a given splint of a given size at a given time.

RED CROSS MEMBERSHIP

The Red Cross now numbers more than ten million members, which is more than twenty times the pre-war membership and does not take into account the Junior Red Cross membership. This following is pledged to continue working for the veterans of war; to develop stouter national resistance to disease through health centers; to increase the country's nursing resources and to cooperate with official health agencies; to continue preparedness for disaster relief; to continue home service and community work; and to complete relief work for war exhausted and disease ridden people of Europe.

Many Patients Are Cooked Into Bad Health

Improperly-prepared, imperfectly-assimilated, incompletely-oxydized food may produce dyspepsia, gastric ulcer, rheumatism, tuberculosis and wasting diseases, neurasthenia anemia and blood impoverishment—and protracted convalescence; while subvitality and increased susceptibility to all forms of infection may have their origin in the frying pan and the cook pot.

The average person doesn't know that butter, lard and animal fats that smoke at a comparatively low temperature develop acrolein or acrylic aldehyde—a substance highly irritating to the delicate gastric and intestinal mucosa in this burning process.

These low temperatures favor the absorption of large quantities of grease—difficult to split up, and difficult properly to oxydize. They produce incomplete oxydation of the proteid molecule—and are the source of many disorders that trace to this source.

There is one way to overcome a large measure of this trouble. Instruct your patients to use Mazola—for all cooking and baking purposes.

Mazola can be heated to upwards of 650° Fahrenheit without burning: Whereas butter burns at 250°, and lard at 425° Mazola-cooked food is seared over. The juices and flavors are kept in—the fat is kept out. Food tastes better—and *is* better.

Mazola is also perfectly delicious as a pure sweet salad oil—preferred by many to even imported Italian and Spanish oils.

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MAZOLA IS SOLD BY ALL GROCERS EVERYWHERE

THE EFFICIENT DISINFECTION OF HOSPITAL CLINICAL THERMOMETERS

JOHN N. FORCE, M.D., Gr.P.H., Associate Professor of Epidemiology, and WILLIAM J. KERR, B.S., M.D., Instructor in Medicine, University of California, Berkeley, and San Francisco

The clinical thermometer carried by the family physician has, for many years, been an object of well deserved suspicion. Removed from the patient's mouth, glanced at, shaken, rinsed in a tumbler of water, wiped with an alcohol saturated pledge of cotton (or perhaps on the owner's pocket handkerchief), and restored to its more or less precious metal case, the pocket clinical thermometer has a ritual of usage which remains as an interesting survival of the pre-Listerian days of medicine.

As a result of the general distrust of the pocket thermometer, several disinfecting cases have been developed, ranging from elaborate manufactured articles to the home-made variety assembled from a rubber stopper, a thick-walled test tube, a fountain pen clip, and a few cubic centimeters of alcohol.¹

The hospital clinical thermometer, on the other hand,

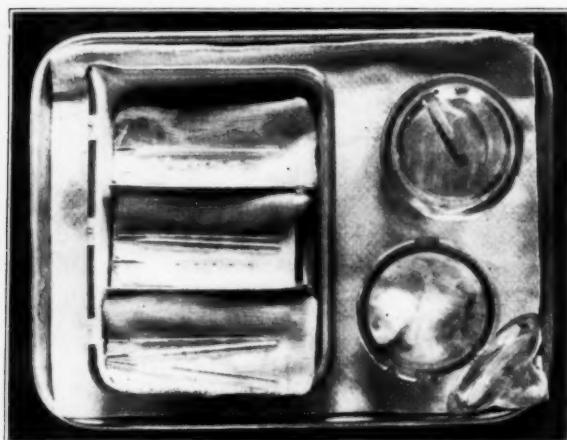


Fig. 1. Old style of equipment used in taking temperatures in the hospital wards.

has escaped suspicion because of the impression of cleanliness which it managed to convey while standing openly in its little glass bottle containing perhaps in inch of disinfectant. The method of thermometer disinfection described in this article was developed as a result of explorations in that region which lies, in a clinical thermometer, between the inch handled by the nurse's fingers and the inch ordinarily bathed in disinfectant.

At the time of beginning this study, the following equipment and methods were used in taking temperature at the University Hospital:

A wooden block had sockets bored to accommodate three small wide-mouthed bottles containing, respectively: Liquor cresolis comp., 2 per cent solution; alcohol, 70 per cent; water. This block also held a cotton container and a waste cotton receptacle (Fig. 1). From one to four clinical thermometers were kept in the disinfectant bottle until the time of taking temperatures, when they were rinsed in the alcohol, then in the water, then wiped with cotton and placed in the mouths of the patients. After all the thermometers available had been distributed, the pulse and respiration of the first patient were taken, his thermometer read and restored to the disinfectant bottle. This was continued until all the thermom-

(1) Force. A Home-Made Antiseptic Thermometer Case. *Jour. Am. Med. Assn.*, 1912, 50, 797.

eters had been collected, when they were at once redistributed and the process repeated.

The above technique seemed inadequate for the following reasons: (1) Granting that all that portion of the thermometer which had been in the patient's mouth was completely bathed in disinfectant, there was a possibility for insufficient disinfection time. Assuming that four thermometers were used in a ward and all had been returned to the bottle, there was no safeguard to prevent the immediate use of the thermometer taken from patient No. 4 on patient No. 5, with practically no sojourn in liquor cresolis comp., and a hasty dip in alcohol and water. (2) Due to failure to renew the disinfectant solution there was an ever widening zone of mouth contaminated thermometer above the level of the ever shrinking liquor cresolis comp. That this zone was not disinfected by the alcohol was shown by rubbing sterile cotton swabs over the thermometers before placing them in the patients' mouth, care being taken to avoid the portions usually held by the fingers or those which had been in the disinfectant. Blood agar plates inoculated from these swabs showed practically pure cultures of a green-producing streptococcus from all three thermometers in one ward, and mixed pneumococcus and streptococcus from two thermometers in another ward.

After the inadequacy of the existing method of thermometer disinfection was determined, the first constructive step in replacing it was to determine a satisfactory disinfectant. It was felt that alcohol in 50 per cent solution would be the most simple and economical disinfectant, if it were rapid enough in that dilution. As thermometers could be transferred directly from 50 per cent alcohol to the mouth, there would be an added advantage in having only one solution on the nurse's tray. In order to determine the suitability of 50 per cent alcohol, the following experiments were conducted.

Experiment 1. Sterile glass rods of the size of clinical thermometers were placed in the mouth with sterile forceps and held for fifteen minutes. Without wiping, they were then transferred to alcohols of 50, 70, and 95 per cent strength. At the end of six, nine, and twelve minutes, rods were removed with sterile forceps, shaken, touched to sterile filter paper to remove excess of alcohol, and dropped into Petri dishes of blood agar. After rolling the rods several times across the surface of the agar, they were turned out and the plates incubated.



Fig. 2. White enamel photographic tray used in the new method of sterilizing thermometers.

At the end of twenty-four hours' incubation, all plates were sterile except those inoculated from rods which had been six minutes in 70 and 95 per cent alcohols, respectively.

Experiment 2. Experiment repeated, using 50 per cent



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alcohol only, the times of contact being two, four, six, eight, ten, and twelve minutes. The plates inoculated from rods which had been six minutes in 50 per cent alcohol showed a heavy growth of staphylococcus; the ten minute plate showed a few small colonies of streptococcus; all others sterile.

Experiment 3. Experiment repeated, wiping the rods with cotton sponges wet with tap water before placing in the 50 per cent alcohol. The two minute plate showed staphylococcus; all others sterile.

Experiment 4. Experiment repeated, holding the rods twelve minutes in the mouth and wiping half of them with 0.5 per cent solution of sodium carbonate and half with water. Exposure to alcohol was for two, four, and six minutes. The two minute plate inoculated from a rod wiped in water showed staphylococcus; all others sterile.

From these experiments it would appear that exposure of a clinical thermometer to 50 per cent alcohol for four minutes will secure adequate disinfection, provided the thermometer has been wiped with a cotton sponge wet with water, to free it from mucus, before placing it in the alcohol.

Post and Nicoll² placed half cubic centimeter quantities of various germicidal solutions in test tubes and inoculated each with a loopful of broth cultures of streptococcus, gonococcus, and typhus, respectively. Transplants were made to blood agar at the end of one minute, ten minutes, and twenty hours. The colonies appearing on the plates were counted. The results with alcohol, 30 per cent, one minute contact, were: streptococcus 25 colonies, typhus 300 colonies. All plates with 50 and 70 per cent alcohols were sterile, as were all plates with 30 per cent alcohol, ten minutes contact.

The above high efficiency of 50 per cent alcohol does not appear to be confirmed by Seelig and Gould.³ These authors suspended celloidin capsules containing broth cultures of various organisms in watery solutions of disinfectants. Loopfuls were removed from the capsule at intervals and plated. Their results with alcohols and cultures of staphylococcus were as follows:

Time	95 percent alcohol	80 percent alcohol	70 percent alcohol	50 percent alcohol
5 min.	growth	growth	growth	growth
10 "	"	"	"	"
20 "	sterile	"	"	"
30 "	"	"	"	"
1 hour	"	"	"	"
1 1/2 hours	"	sterile	"	"
2 "	"	"	"	"
18 "	"	"	sterile	"

At first sight, it would seem that this experiment establishes the disinfecting power of alcohol in proportion to its percentage strength. It must not be forgotten, however, that this was primarily an experiment in osmosis, the results being later confirmed by the use of animal membranes. While 95 per cent alcohol had a more rapid penetrating power, it certainly was not 95 per cent alcohol which disinfected the contents of the capsule. It is to be regretted that these authors did not sample the contents of the capsules chemically as well as bacteriologically, in order to determine the percentage of alcohol present in the broth culture when the organisms were killed.

Having determined upon the disinfectant to be employed, the next step was to develop a method of procedure which would insure complete immersion of the thermometer for a sufficient period to secure disinfection. This was ob-

(2) Post and Nicoll. Comparative Efficiency of Some Common Germicides. *Jour. Am. Med. Assn.*, 1910, 55, 1635.

(3) Seelig and Gould. Osmosis as an Important Factor in the Action of Antiseptics. *Surg. Gyn. and Obstet.*, 1911, 12, 262.



Fig. 3. Disinfecting tray complete. One of the glass receptacles is for wet cotton; the other for waste cotton.

tained by the use of photographic developing trays measuring four by six inches, divided into three sections by a metal strip (Fig. 2), as described in the accompanying bulletin, which was prepared by us for the information of the ward nurses: About 200 cubic centimeters of 50 per cent alcohol is used in the tray. At the completion of each temperature taking, this is emptied into a waste alcohol bottle and eventually reaches the hospital pharmacy, where it enters into the composition of the rubbing solutions dispensed throughout the hospital.

Standardized Method of Handling Thermometers

(Prepared by the Department of Epidemiology, University of California, approved and effective January 9, 1920.)

The thermometer disinfecting tray consists of two parts—a white enamel tray provided with a pouring lip, and a metal strip or filler with two ridges running transversely, joined by a metal handle. The tray is to be used as follows:

1. Place the metal strip in the tray so that the ridges will divide the tray into three compartments.
2. Mark these compartments 1, 2, and 3 by means of adhesive tape labels placed on the rim of the tray.
3. Place a gauze pad so that the bottom of the tray will be covered.
4. Place four clinical thermometers, with their mercury bulbs away from the metal handle, flat in compartments 1 and 2 of the tray.
5. When ready to take temperatures, place the disinfecting tray, a clean cotton container and a waste cotton receptacle on a small serving tray (Fig. 3).
6. Pour enough 50 per cent alcohol into the tray to cover thermometers (the tray should be at least half full).
7. Place the thermometers from compartment 1 in the mouths of four patients, shaking the alcohol from each thermometer before insertion, but not wiping it. (By lifting one side of the metal filler by the handle, the thermometer is secured without immersing the fingers in the alcohol.)
8. Take the temperature, pulse and respiration of each of these four patients, removing each thermometer and wiping with wet cotton before returning it to compartment 3.
9. Repeat, using thermometers in compartment 2, thus allowing the first four thermometers to remain in alcohol in compartment 3 until the second four thermometers have been returned to compartment 1.
10. Continue alternation of thermometers until all temperatures are taken.
11. Remove thermometers from tray and pour alcohol back into bottle. Do not allow thermometers to remain lying in alcohol between times of taking temperatures.